PLANNING FOR TRAIL BIKE RECREATION
The report and its findings, options, and alternatives do not necessarily represent official views or policies of the Heritage Conservation and Recreation Service, the National Park Service, the U. S. Department of the Interior, or any other federal agency.
Motorcycle recreation use is no longer participated in by just a small segment of society. Whether one interprets this form of recreation as legitimate or not the reality of the situation is that participation is rapidly on the increase. In light of the significant growth of the sport and decisions in resource use that planners and land managers must make today, valid information on effective planning processes is vitally needed.

The digest of papers that follows contains valuable information and opinions from a wide cross-section of authors. This is another in a continuing series of technical publications published by the Heritage Conservation and Recreation Service. It is hoped that the utilization of this information will engender quality natural resource planning decisions concerning motorcycle and off-road vehicle usage.
INTRODUCTION

Until the late 1950s and early 1960s, the motorcycle was primarily a trans­portational vehicle, designed for use on streets and roads. A significant number were modified by owners to be more suitable for off-highway travel and competition on closed courses, but a boom in off-road motorcycling did not begin until manufacturers began to market lightweight vehicles specifically designed for use on rough and natural terrain.

Throughout the 1960s the use of these relatively inexpensive vehicles spread throughout the United States, becoming a major recreational movement. Simultaneously, a strong environmental awareness developed among the public, and government responded with major legislation aimed at long-range planning for the protection of our finite and valuable resources.

While use of the off-road motorcycle was spreading within a nation that had more money and leisure time than ever before for the recreational enjoyment of its public lands, the cornerstones were being laid for protective regulations of those lands. Motorcycle sales increased about 25 percent between 1955 and 1960, the year when the Multiple-Use-Sustained Yield Act was passed by Congress. But between 1960 and 1970 the market expanded five-fold, from just over a half-million vehicles in use to nearly three million and the nation was largely unprepared. Major planning and management tools, including the Resources Planning Act, the National Forest Management Act, and the Federal Land Policy and Management Act were still a half-decade away.

The professional planner or land manager found himself in a difficult position. Not only did he not have the knowledge of on-the-ground techniques to control and regulate the use of dirtbikes, he lacked even the legislative tools to tell him whether or not he was supposed to manage them.

Executive Order 11644 of February 8, 1972, addressed the problem by proposing to "... establish policies and provide for procedures that will ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various users of those lands."

Reaction within the private sector was immediate. The Motorcycle Industry Council (MIC), a trade association representing the interests of the manufacturers of over 94 percent of the motorcycles sold in America, and the American Motorcyclist Association (AMA), the national voluntary membership organization of motorcycle owners, suddenly were faced with a common challenge. In March 1972 they met in Washington to form a joint land use committee, a coordinating body that has been in operation ever since.

As guidance for the various federal land management agencies came down from Congress, the MIC and the AMA conducted research and made contact with professional planners, seeking the technology that could help managers convert federal policy to on-the-ground application. At the time of E.O. 11644, little had been written about how to provide for recreational trail bike use. Today many questions remain, but a lot has been learned.
In 1977, the Motorcycle Industry Council contracted with Garrell E. Nicholes, whose firm, The People Planners, became consultant to the Council to organize off-road vehicle management seminars to bridge the communications gaps between land planners and recreational dirtbike users and to impart to those managers the known skills and techniques that could result in solutions to ORV management problems. These seminars have not only been successful in imparting that knowledge, but they have also been a vehicle for expansion of that body of information. Professional planners have had an opportunity to learn and have been given a forum through which new ideas and techniques have developed.

By the end of 1978, eight workshops had been conducted by MIC, co-sponsored by government planning agencies:

- Moab, Utah, September 27 through 30, 1977—co-sponsored by the Utah Outdoor Recreation Agency and the Utah Division of Parks and Recreation.

- San Diego, California, February 1 and 2, 1978—Heritage Conservation and Recreation Service, California State Department of Parks and Recreation, County of San Diego (Integrated Planning Office).


- Madison, Wisconsin, September 27 and 28, 1978—Heritage Conservation and Recreation Service, Wisconsin Department of Natural Resources.

This digest is a collection of papers delivered at the workshops. Of these eight workshops, the themes range philosophical to technical, define problems, and suggest solutions. We hope they present to you, the users and planners, some of the valuable knowledge that has been developed on the planning and management of off-road motorcycle recreation.
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Our interest in co-sponsoring off-highway motorcycle workshops is to give what assistance we can to recreation planners and to help government agencies develop responsible riding habits in the 12 million off-highway motorcyclists using public lands.

I will introduce you to the Motorcycle Industry Council and describe some of the informational resources you may be able to use as you become involved in the planning and management process.

The MIC is a nonprofit national trade association representing manufacturers and distributors of motorcycles and motorcycle parts and accessories. We do not specifically represent motorcycle dealers or riders, but we have constant communications with the various state dealer associations and rider representatives such as the national American Motorcyclist Association.

The motorcycle industry has been involved in governmental relations through our trade association since 1914. The motorcycles you'll be riding during this workshop and some of the technical experts helping with the demonstrations are provided by our member companies—but we, the MIC, do not sell motorcycles. We are here to give information and to help solve problems.

What can we do for the professional planner? Let me suggest several tools we have developed—then we'll take questions and spend the next two days exploring what you need from us.

We publish reference information on a great variety of motorcycle related subjects—everything from the number of motorcycles in use to the type of equipment required to be on them. I will not go into detail during this talk, but we have placed several pieces of reference information in the conference notebooks you all have received.

We update this information regularly and provide it free of charge to anyone interested. In addition to reference information we publish ourselves, we reproduce and distribute topical information developed by others.

A very complete bibliography of all the research we have discovered on off-road vehicles and related subjects is in your conference notebook.

Excessive noise is most commonly described as the number one problem in motorcycling. We have done extensive research on this subject and can provide a great deal of assistance in solving noise-related problems.

Alan R. Isley, President of the Motorcycle Industry Council, has a degree in marketing and has been involved for fifteen years in the recreational industry. He has been involved in the Boating Industry Association, the Recreational Vehicle Institute, and has served as a director for the MIC, the Motorcycle Safety Foundation, and the American Motorcyclist Association.
noise, techniques for measuring noise levels, and suggested standards and enforcement programs.

In more detailed model programs which we can supply upon request, we have recommended effective statewide noise control programs, specific off-highway facility noise controls for competitive events and use facilities.

Each of these specific model programs is detailed with the appropriate noise test method and sound levels, and we have listed sources of sound level meters, tachometers to measure engine speed, and even hearing protectors for enforcement technicians.

We also serve as a channel to transfer information from state to state or agency to agency. For instance, on the subject of motorcycle noise we have prepared the only available summary of state laws and regulations.

Annually we publish a 48-page statistical manual which brings together the largest single source of motorcycle facts and figures. For planners this serves as a basic starting point for objective allocation of recreational resources. For more detailed research and statistical assistance we have a qualified staff to work on specific informational needs.

We also maintain contact with state motorcycle dealer associations to gain their support and involvement with planners on a statewide or local level. We exchange information with a large group of related recreation industries, four-wheel drive clubs, snowmobile interests, and motorcycle rider groups to coordinate and promote the most efficient multiple-use concepts.

In connection with the American Motorcyclist Association we have developed a list of over a half-million rider names and addresses for direct mail contact with recent purchasers of off-road motorcycles. This list is computerized by zip code to give us the most flexible access to current riders. We have two primary uses for the list. First, riders can be notified on a local area, county, state, or national basis of opportunities for citizen participation in the planning process.

Second, the list can be used for random sample selection for research surveys about rider needs and opinions. We make this mailing list available without cost to government agencies for planning and communication purposes.

The MIC also provides public service messages to the motorcycle enthusiast media to remind owners of their responsibilities to protect the environment and respect other land users. These messages appear in many magazines, on billboards when available, or posters in retail dealerships, and on radio and television.
The messages we publish are to the point and address the most critical subjects in the sport of motorcycling. We are actively seeking the cooperation of government agencies which will assist with the distribution of these rider responsibility messages.

The most recent target for our communications effort is you—the planners involved in ORV resource development. You are the reason we are here today, to exchange ideas, to listen and learn.

We have created a bimonthly newsletter called The Recreational Trailbike Planner, to encourage the exchange of ideas and the practical solutions to common problems experienced by over 1,000 professional land planners and managers throughout the United States.

The motorcycle community in the United States is very large, with some 20 million people riding 8 million motorcycles. Of these, some are used for transportation or recreation on streets only. But over half—5 million bikes—are used for off-highway recreation by 12 million riders. These are the recreationists for whom we are trying to provide safe, enjoyable experiences—without needless damage to the environment and without ruining the recreational experiences of others.

Off-highway riding can be a positive experience. You will have a chance during this workshop—some of you for the first time—to see why so many people get into this sport. It can fulfill a wide range of recreational needs from full-blown competition to peaceful enjoyment of nature.

The answer, however, is not in ignoring the public need for recreation or denying their freedom to choose their form of recreation. The answer is not "banning," but rather, is "planning."

THE ROLES AND THE EXPECTATIONS OF
THE AMERICAN MOTORCYCLIST ASSOCIATION
by Robert Rasor

The American Motorcyclist Association is a voluntary membership organization, representing 130,000 motorcycle enthusiasts who participate in a multitude of motorcycling activities. Member interests range from the recreational trail rider, to the road enthusiasts, right up the ladder to the professional competitors who participate in our million-dollar-plus Grand National Championship.

The Association was founded in 1924 to meet the needs of a rapidly expanding motorcycle riding program in the United States.
Through the years it has expanded and grown to its present size and broadened its representation to include all facets of motorcycle-related activity. While competition remains an area of association involvement, such areas as legislation, both on-road and off-road, public relations, safety, and other member services have assumed increasing importance in terms of staff time and budget allocations.

In addition to our 130,000 individual members, the association has 1,400 chartered clubs located across the country. Our chartered clubs often represent the core of motorcycling activity within the district, providing an outlet for social as well as motorcycle-related events.

The administration of all this activity is handled by a national staff headquartered in Westerville, Ohio, a suburb of Columbus. Input to national staff is provided by 4 elected representatives from each of our 37 districts. Similarly, when information is needed at the local level, national staff calls on this group of dedicated volunteers to provide the necessary input.

The AMA has reflected many of motorcycling's growth trends over the years within its own membership makeup. When the Japanese motorcycle was introduced into the U. S. marketplace, a growth in vehicle population as well as our member population occurred. When the economy drastically slowed following the 1973 energy crisis, so did the industry's sales figures and the Association's growth rate.

The most recent trend reflected by our membership has been a large influx of the recreational trail rider: the man, girl or boy, or family group who utilizes the motorcycle as a recreational tool as opposed to the strictly competition-oriented rider whose dominant interest is in organized contests. For the recreational motorcyclist, the bike can be both an end in itself and a means to other ends. For instance, many ride solely for the pleasure derived from travel from point A to point B and back again. However, sometimes, the vehicle is only an integral part of a more complex recreational scheme that may involve camping, fishing, hunting, rock hounding, or exploring. This trend is reflected by sales of certain types of vehicles and by increasing demands for recreational opportunities.

In the absence of positive management strategies, these demands are often reflected negatively in the form of user conflicts, trespass, violations of land closures, and certainly by increasing pressures on land managers, planners, and recreational professionals. However, the AMA feels that these problems can be dealt with and, through innovative planning and management, solutions can be developed. The question then becomes: How can the AMA help people like you, the planners and land managers?

We believe there are several ways the AMA can provide a service to the professional planner and manager both directly and indirectly:

As a national organization the AMA is in a position to make planners aware of problems, solutions, and management approaches that are being utilized in other parts of the country. Through our Government Relations Department, we are able to provide examples of legislative and regulatory approaches that have worked elsewhere. Or, more important, that have not worked elsewhere.
The Association maintains valuable contacts in land management agencies both at the federal level and in many states. Often we are able to use these to a particular state's or agency's advantage. As a result of our information base we can put planners and managers in contact with their counterparts in other states who may be experiencing similar problems, thereby providing a forum for discussion.

Because of our continuous exposure to a broad range of reports, research, and planning documents we may be able to refer you to a written source not previously known. The AMA maintains an inventory of planning documents dealing with trailbike recreation and bibliographies on ORV research, all of which are available upon request.

The AMA staff is composed of some of the most knowledgeable people in the field of motorcycling, with expertise ranging from planning and developing recreational facilities to staging competition events. This expertise is available to you, as are most association materials, at no charge.

When local support is required, the AMA through its computerized membership lists, can provide the necessary contacts. For instance, when planning needs dictate a user survey questionnaire, the AMA can provide names selected by random sample to assure an unbiased survey. In most cases mailing services are done by the Association. Or if local riders need to be informed about a new set of regulations, management plans, or a scheduled public meeting, the AMA can mail information directly to local clubs, motorcycle dealers associations, and individual members.

As staff time permits, the AMA participates in planning workshops, seminars, conferences, and educational programs to present and answer questions about motorcycle recreation.

The AMA has conducted several seminars for state and federal land managers to increase their knowledge about trailbikes and the needs of users.

The AMA is interested in your problems concerning our recreational segment and in helping you reach positive solutions to those problems. This interest can be the planner's greatest resource.

These are but a few of the services AMA can provide to planners at the state and regional level. We invite you to contact us regarding how we may help you individually.

While all of these services are offered willingly, the AMA feels there are some things that planners and land managers should provide. Among these are

1. An attempt to solve management problems in a positive manner.

Avoid negative management such as blanket land closures whenever possible. In the case of trail riding, it has always been the position of the AMA that trailbikes should not necessarily be allowed everywhere off the streets and highways. The AMA has publicly recognized that such activity, like other outdoor recreational activity, should be correctly managed so as to fulfill the needs of the American public for outdoor recreation while minimizing the adverse effects upon the environment. Correct management involves the
limitation of activity in areas where proscription is necessitated due to ecological features, geological characteristics, or conflict between various types of use. Prohibition of trailbiking also occurs "naturally" in that trailbikes have design limitations which dictate the nature of their use.

Solving the problem is not graveling every mile of trail so that there will be no effect. Solving the problem is not closing public lands to trailbike use. Solving the problem is not allowing trailbikes to use certain trails with no management under the rationale that if they damage that area and no other it is sufficient. Solving the problem is correct management. Management must take into account the nature of the use, the characteristics of the locale of that use, the effects of that use that are having an adverse impact on the area and then the steps necessary to halt that impact either entirely or sufficiently in accordance with principles of efficient and responsible land management.

2. That you have an awareness of the full diversity of issues facing you when formulating management responses.

One formal analysis of ORV problems which attempted to identify and rank the questions associated with providing ORV opportunities on public lands in the west suggests this diversity. Several regional problem identification seminars were held involving about 90 participants. The participants included federal and state land managers, academicians, resource users, ORV club representatives, and environmental group leaders. From these seminars, nearly 450 separate issues related to or induced by the presence of ORVs were identified and categorized into the following eight subject matter classifications.

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<th>Behavioral</th>
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<td>Environmental</td>
<td>Resource and Facility Needs</td>
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<td>Administrative</td>
<td>Technological</td>
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<td>Economic</td>
<td>Land Use Conflicts</td>
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After the eight categories and the problems in each were identified, seminar participants were asked to arrange them in order of importance. The ranking process suggested that each group (managers, interest groups, academicians) held different opinions as to the importance of questions in each of the eight categories. Thus, overlayed upon the discussion of solving the ORV problem are differences among the various involved groups concerning what problem needs to be solved. Recognizing that a diversity of ORV problems—rather than a problem—exists is a critical first step in proposing effective solutions.

3. Adopt realistic and enforceable use standards.

Rules and standards relating to such issues as riding hours, noise emissions, seasonal activity, etc., need to be workable if they are to be accepted by the rider. We would urge you to seek the advice of responsible clubs or rider organizations in developing policies and standards. In regard to noise emissions, the Motorcycle Industry Council is the best source on what is attainable and realistic.

Once realistic standards and rules have been adopted, enforce them strenuously. You may be surprised to find that the responsible rider will be your closest ally in stressing the strict enforcement of rules that are designed to protect
both the sport and the resource. No one is more sensitive to and aware of the
damage done to our image and the land by thoughtless persons than the dedi­
cated trailbiker. As a result, the responsible rider will encourage your
enforcement efforts and will exert peer-pressure to follow the rules.

4. Let us know what approaches your state's agencies are taking so we may
help make others aware of them.

5. Let us help you solve your problems.

A solution to one of yours is the solution to a whole state full of our
members' problems.

THE PUBLIC LAND MANAGER'S RESPONSIBILITY TO
INCORPORATE TRAILBIKE RECREATION NEEDS IN
OUTDOOR RECREATION PLANNING
by Larry R. Young

It must be understood that the following remarks pertain generally only to the
public lands administered by the Bureau of Land Management (BLM) and not to
all of the publicly owned lands of the United States. Other federal lands
such as the National Park System, National Forests, National Wildlife
Refuges, state-owned lands, county lands, etc., are managed under different
laws and mandates. When the term "public lands" is used, the reference is to
those lands under the administration of BLM. However, this constitutes a
major portion of the publicly owned lands in the United States. About one of
every five land-acres in the United States is administered by BLM.

Public land manager's decisions also have a disproportionate impact on trail­
bike use in the west when it is further considered that the public lands'
topography is generally favorable for trailbikes, the vegetation only occasion­
ally presents an impassable situation, fewer legal constraints are present,
and, psychologically, the public lands with vast open spaces are well-suited to
trailbike use.

With the issuance of Executive Order 11644, "Use of Off-Road Vehicles on the
Public Lands," by the President in 1972, use of trailbikes on the public
lands gained formal recognition by the federal government. Although not uni­
versally recognized as such, this was a major victory for off-road vehicle
(ORV) interests, especially for trailbike enthusiasts as they constitute the
majority of ORV users. The reason this was such a triumph was that prior to
this time ORV use, including trailbikes, on the public lands was technically
in trespass. From the public land manager's point of view, this action freed
his hands to openly and legally plan and manage for trailbike use.

Larry R. Young holds a B.S. in forestry with a
major in range management from the University of
Idaho. He joined the Bureau of Land Management
in 1952, joining the Division of Recreation and
Cultural Resources in Washington in 1971. He is
currently a recreation operations program leader
for BLM.

However, the public land manager's concern began
earlier than 1972. ORV use in general began to
have an impact in the late
1940s and 1950s. In the
sixties, the lightweight,
relatively low-priced
vehicles, mainly snowmobiles and trailbikes, started the popular surge toward ORV use. Prior to this time, the heavyweight Harleys and Indians just did not have an appeal for off-road use. By 1968 the BLM's study of the "California Desert" recognized the growing trailbike impact upon the public lands and recommended some form of control. In 1971 the Secretary of the Interior formed a task force to study the ORV situation. That task force completed its report in late 1971 and recommended that the Secretary issue an order requiring control and management of ORVs. The President issued Executive Order 11644 instead, followed by environmental statements, regulations, court orders, etc.

What does all of the foregoing mean to the public land manager and in turn what will be the effect on the trailbiker using the public lands? First and foremost, the public land manager is being impressed with the fact that the trailbiker is a citizen, a first-class citizen, with the rights, privileges, and responsibilities of any other citizen using the public lands. This means that the manager must see that trailbikers have the opportunity to present their views prior to decisions being made that affect them, and that these views are not only heard, but taken into consideration in the decisionmaking process. This does not mean that the manager must accede to all demands of the trailbikers, but that trailbike use will be given equal consideration with all other uses when land use allocations are made. Executive Order 11644 requires that the public manager do no less.

While the public land manager must consider the trailbikers' views, trailbikers must be aware of the constraints imposed on any land manager's decisions by the various environmentally oriented laws such as the National Environmental Policy Act of 1969 (NEPA-42 U.S.C. 4321 et seq), The Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), and Title II of the Sikes Act (U.S.C. 670g et seq). Also to be considered are the various so-called Antiquities Acts (16 U.S.C. 431 et seq and 16 U.S.C. 468 et seq) requiring protection for archeological and historical resources and values. These are very rigid laws and allow little to the manager's discretion in the way of making trade-offs for social benefits as against environmental or scientific degradation. These laws, along with the Federal Land Policy and Management Act of 1976 (FLPMA) and the two Executive Orders, E.O. 11644, as amended by E.O. 11989, form the major part of framework within which the public land managers and their staffs are guided in their planning efforts.

While many laws are concerned with the environment, we have been able to find only three federal laws which even mention
off-road vehicles, and none which directly names trailbikes. These are the Land and Water Conservation Fund Act, as amended (16 U.S.C. 460 1-6A), which allows land managing agencies to require permits for motorized recreation vehicles; Title II of the Sikes Act which requires the control of ORV traffic in designated wildlife habitat areas; and FLPMA which specifically requires that off-road vehicle use be provided for in the California Conservation Area.

NEPA, FLPMA, and Executive Order 11644 all require public involvement in the planning and decisionmaking process for the public lands. Therefore, the public land manager is mandated to seek an expression of trailbikers' needs for the planning and decisionmaking process. However, the planner has a more immediate reason for seeking input from trailbikers. There are millions of trailbikers using the public lands! And if any plan is to have a chance of success, public land managers must have the cooperation of the trailbikers. Without some understanding of trailbikers' needs, the public land manager has small hope of seeing his plans come to pass. Thus, to the good manager—the thinking manager—it quickly becomes evident that if his planning is to have any meaning, he must consider the trailbikers' needs in his planning effort. Without such consideration, on-the-ground implementation of the plan will become chaos, the public will not be served, and the resources and values of the public lands will be unnecessarily degraded.

In order that the public lands may be properly managed, public land managers are directed to consider trailbikers' needs in the BLM planning and decisionmaking processes. This is a two-way street. While the managers are seeking to define needs by consulting with trailbikers, trailbikers have the opportunity to learn why decisions are made the way they are. This requires open minds by both parties. However, if the managers and the users do get together and freely communicate, the public lands should be the benefactor.

OFF-ROAD MOTORCYCLING— THE INDUSTRY'S RESPONSIBILITIES by Dennis E. David

One cannot distribute any product in today's business climate without being aware of the attendant responsibilities. Regulations and standards, product liability, warranty, and social conflicts arising from use of the product must be taken into consideration by manufacturers.

Dennis E. David is Government Relations Manager for Kawasaki Motors Corporation, USA. He attended USC and the University of California at Long Beach, majoring in mathematics and business administration, is a member of the Society of Automotive Engineers, and has served as Chairman of the Motorcycle Industry Council's Technical and Land Use Committees. In addition to his professional involvement, David is an experienced motorcyclist on a personal basis and has frequently called upon that background to communicate problems and solutions to professional recreational planners.

But how far do these responsibilities go?

Actually, these responsibilities depend to a great extent on the product and its effects. If one were making medicines, the responsibilities of quality control, labeling, and proper use instructions are stricter and more far-reaching than would be for the manufacturer of dog
food. Likewise, the motorcycle industry is charged with responsibilities that originate in the product and its effects on the world.

In the broadest terms, the possible effects of off-road motorcycles can be divided into user conflicts and environmental degradation. Therefore, our industry shares in the responsibility of providing an outdoor recreational experience that does not offend other people nor unnecessarily damage the earth.

How should we carry out these responsibilities?

There are three basic avenues available to us:

1. Control of the product itself.
2. Education of motorcycle users.
3. Involvement in cooperative social action.

THE PRODUCT

Our first responsibility is to build a motorcycle that the user wants. It must be competitively priced, perform well, and be reliable. But it must also be safe and quiet. The industry has made great technological advancements over the past decade in the area of noise reduction, and there is no reason why current state-of-the-art off-road motorcycles need to be excessively loud.

And that issue, noise, brings us to our second available course of action:

USER EDUCATION

We can build a good quiet motorcycle, but what if the muffler gets removed? How do we discourage operation that causes environmental damage?

We can support educational efforts utilizing traditional methods (in schools, through riding clubs and organizations, by publishing materials that go to the new buyer) and, we can advertise.

The advertising themes of manufacturers play an important role in helping to shape the attitudes of the buying public. One only has to recall such campaigns as Honda's "You meet the nicest people . . .," Yamaha's "Different strokes for different folks," or Kawasaki's "Let the good times roll" to appreciate the influence that motorcycle advertising can have.

But what about responsibility in that advertising? Do manufacturers consider the non-sales-related effects that their promotions may have? What are the manufacturer's responsibilities in addressing those effects?

Before I discuss how this issue affects off-road motorcycle advertising, let me draw a parallel with something that has been happening in the street-bike market for years. Knowing that motorcycles were considered by many to be dangerous vehicles, our industry has endeavored to promote safety through advertising. Safe riding practices, like always wearing a helmet, are portrayed in almost all motorcycle advertising. The industry believes that this "safety-advertising" has been an important element in developing "safety-awareness" on the part of riders. This awareness leads to a better safety
record for motorcycles, and the results are good for everybody.

How does such a philosophy apply to off-road motorcycle advertising? First, the manufacturers must be aware that positive results can be obtained from advertising designed to change the attitudes of the off-road rider who is an environmental degrader. This awareness on the part of the manufacturers has been most obvious in the area of off-road motorcycle noise. On this issue the manufacturers were aware that excessive noise closes riding areas and could hurt motorcycling.

So, the educational process is really twofold. First, the manufacturers must educate themselves as to the problems and possible solutions. This requires education within the industry itself in order to permit the weighing of issues, solutions, and benefits. This is a process that is now well under way and is already resulting in the second part of the educational effort. This second effort involves trying to get more riders riding thoughtfully, so that environmental problems and user conflicts will be reduced.

And now to the area with perhaps the greatest problem-solving potential:

**COOPERATIVE SOCIAL ACTION**

Let me go back a few years to southern California in the early fifties. There was a terrible problem with hot-rods. Drag-racing in the streets and flood control channels was causing a tremendous amount of grief for all concerned. For years there were no solutions, and the problems and belligerent attitudes of the various parties escalated. The Long Beach Lions Club started working with the car clubs, outlaws, and police departments to see what could be done. The program started off as a communicating tool to try to reach the street-racers. These efforts eventually resulted in the construction of Lion's Drag Strip, and drag-racing has grown to what it is today.

The point of my digression is that nothing happened as long as the parties were pulling against each other. But by working together, the problems were eventually almost totally overcome.

The parallels with off-road motorcycling are obvious. For years, very little progress was made toward solving some of the problems. This "postponement" was caused by the extreme polarity that grew up between those who were motorcyclists and those who wanted to shut motorcycles out. I think we are all aware of the emotionalism that has surrounded this issue and has helped to build psychological "people-barriers" that have prevented progress toward resolving some of the problems. I am encouraged by the trend away from shouting, finger pointing, and name calling; toward a more effective process of
discussions, education, and cooperation. These conferences are indicative of this improvement in human relations and a movement toward positive results.

Becoming even more specific for a moment, I wish to share with you an example of how improvements in communication are leading to action on the part of the motorcycle industry. The November 1977 issue of the Sierra Club's ORV Monitor contained an editorial by Russell Shay entitled "Building a Better ORV User." Recognizing that ORV users are a part of the public, the article suggested, "Were the mass of ORV users to demonstrate concern and care for the environment, the necessity for closures would diminish." The article further suggested that manufacturers have a responsibility to help accomplish this goal by changing the tone of their product advertising. I think Mr. Shay should get an award for effectively bridging the communication gap. The reason I say this is because while the environmentalists are reading our literature to find out what we are doing, we are busy reading their literature to keep ourselves abreast of what's going on in their camp. The reaction of our industry to Mr. Shay's editorial has been positive. We agree with the goal of preventing environmental damage, and we also agree that our product advertising can help to educate riders.

It is interesting to note that most motorcyclists are usually environmentally aware. Nobody wants to ride in the city dump. Motorcyclists like to ride in beautiful areas just as backpackers prefer good trails. Our industry will do its part in heightening concern for the environment on the part of motorcyclists, thereby helping to ensure that tomorrow's motorcycle rider can enjoy the pleasures of trailriding the way I hope all of you will enjoy it at this seminar.

ORV PLANNING: MORE INPUT WILL MEAN LESS CONFLICT
by Russell Shay

My name is Russell Shay and I work for the Sierra Club. Among other things, I edit the ORV Monitor, a newsletter about off-road vehicle recreation as a problem for land managers and as a subject of concern to environmentalists.

I want to talk to you today about the role environmental groups have to play in the process of planning off-road vehicle use. This is a very tough subject for many off-roaders, to whom the Sierra Club represents everything that's wrong with the world. Many Sierra Club members have similar feelings about off-roaders, and particularly about off-road motorcyclists.

This doesn't make life easy for the public official who has to deal with both of our groups. A number of land planners have given me the impression that the heat of controversy is, as far as they are concerned, the worst problem they have to deal with in planning off-road vehicle use; worse than the environmental impacts, worse than the paperwork, worse even than finding the funds and manpower to do the planning in the first place.

The relevance of this to the role environmental advocates have to plan in

Russell Shay works on public land management as a member of the national conservation staff of the Sierra Club. He is editor of the ORV Monitor, a bimonthly journal about ORV management for Sierra Club members.
ORV planning is simply that the arguing, finger-pointing, and insults between ORV users and environmentalists clearly distracts both groups from the opportunities they have to participate in the planning process. Much of the time allotted for public input, and much of the force of what input is given, is lost in the bickering.

The battling is not restricted to the two opposed sides. A lot of it gets directed at planners. The off-roaders accuse the planners of complicity with environmental groups, and the environmental groups accuse the planners of selling out to the ORV users. Sometimes the result is merely a large pain and a public relations problem for the planners. At other times the planners may find themselves called off the job to defend themselves before their superiors or before a judge.

This reflects a need that the planners aren't meeting: a need for better understanding and more trust—not so much between ORV users and environmentalists as between those groups and the planners. If planners want cooperation from citizens' groups, they will have to convince everyone involved that they are doing their jobs to the best of their abilities. The public has to believe that planners are not striking deals and taking shortcuts to avoid work, or taking positions for the sole purpose of relieving public pressure.

Ideally, this could be achieved through perfect planning, thoroughly documented and intensively implemented. Unfortunately, impeccable, logically unassailable planning is rarely possible. This makes the explanation of planning decisions all the more important.

If planners restrict public involvement in planning to counting letters or hands, they will never succeed in gaining widely based support for their planning. Everyone will be too involved trying to get out the vote to pay any attention to the planners' work or to try to understand it.

What is essential to recruiting support for planning is the communication of the specific reasons behind planning decisions.

The basis of the Bureau of Outdoor Recreation's new involvement in the ORV issue was their discovery, upon analyzing the thousands of letters sent to the federal government in response to rumors about a ban on off-roading, that many ORV users did not know or did not believe that they and their vehicles were capable of causing severe environmental damage to the lands they used. Why should people who feel this way submit to regulation?

But I'm suggesting more than merely improving Environmental Impact Statements or printing more copies of them. I'm suggesting public exposure of the decisionmaking process. The reasons for planning decisions about off-road vehicles may be the directions of laws or regulations and they may be environmental conditions. But they just as importantly include the practicality of enforcement or the limits of an agency's ability to perform certain planning or management tasks.

\footnote{At the time of this presentation, announcements were made by the Department of the Interior concerning the restructuring and retitling of the Bureau of Outdoor Recreation. The agency to which Mr. Shay refers is now the Heritage Conservation and Recreation Service}
Trade-offs and compromises make up a large part of the substance of modern land planning, but it is in just these areas that planners' credibility—and that of their planning—is most often brought into question.

The most important tool that managers and planners have for maintaining their credibility in these cases is candor. All too often planners are deathly afraid to admit their limitations. Some have gone so far as to play off-roaders and environmentalists against each other in an effort to get ORV users to blame the Sierra Club for what they don't like in a planning decision, and to get the Sierra Club to credit the off-roaders for what that group finds wrong. This strategy obviously hasn't been very successful, as both groups have usually ended up mad at the planners as well as each other.

Only by letting everyone know the rationales behind planning decisions and the way the decisions are reached, will the public be able to understand planning decisions. And only if they understand decisions will the public support them. That is why the planner has a strong interest in educating the public about the ORV issue, and about the planning process. The planner is not alone in this. The Motorcycle Industry Council is obviously working hard to educate people about the ORV users' needs. The Sierra Club is working to educate people about environmental impacts. I'm happy to say that there has been increased effort on this by the ORV manufacturers and the ORV press. As examples of this, I would point to some recent articles in several four-wheel drive magazines, to Philip Briggs' article "The Desert Alternative" in Cycle News a while ago, and to some of the Motorcycle Industry Council's efforts to persuade its members to temper their advertising with an environmental sensibility.

But it is the planners and managers who have access to everyone involved and who really have the most to gain by informing the public. If the public—ORV users, Sierra Club members, and the people who are neither—are let in on planning, we will end up with a large group of people who will have gone beyond the simple desire to have their personal preferences catered to. They will want good management. They will not only accept it, they will support it. And they will see that planners and managers get the resources needed to do the best job possible.

CURRENT POLICY AND FUTURE OF FOREST SERVICE MANAGEMENT PLAN
by John Vrablec

Webster defines a planner as a person who plans and then defines a plan as a scheme or program for doing, making, or arranging something. Unfortunately, the dictionary also uses a synonym for plan—such as a scheme—and further connotes that often this is either an impractical, visionary plan or an underhanded intrigue. I am sure we have been accused of all of these at some time or other.

I would like to express
my appreciation for the opportunity to speak to you, and hope that the least I would be able to do is to get rid of the impractical and underhanded intrigue aspects of the definition. By necessity, my discussion of the topic will be general, at best, and represents my own interpretation of what is happening now, and what will probably occur in the future.

First, we have to take a look at the purpose for which national forests exist, and in doing so, define the objectives of Forest Service land management planning. National forests are public lands—and I stress this point very strongly—and, as such, must be managed for the people of the United States. The basic national forest system policy is to manage all resources of these lands under the principles of multiple-use and sustained-yield so that the products and benefits therefrom will best serve local and national needs of the people. One of the key words here is "manage." With the exception of management by default, most other forms of management require planning to achieve their goals and objectives. So it is with the U. S. Forest Service.

Comprehensive resource planning has been going on in national forests for a long time. However, many of the plans were, as we referred to them, functional plans—that is, they dealt primarily with one resource. For example, most forests had a timber management plan, a recreation plan, roadside zone management plan, deer yard plan, and campground plan. Most of these plans were developed in response to a particular need and, in some instances, to a particularly hot issue.

With the passage of the Multiple Use-Sustained Yield Act of 1960, the national forests began the trend toward multiple-resource plans. Further impetus was provided by the National Environmental Policy Act of 1969, commonly referred to as NEPA, which required the utilization of a systematic, interdisciplinary approach to land use planning. Under Title I of NEPA, this interdisciplinary approach is interpreted as meaning the utilization of a team of individuals representing two or more areas of knowledge, learning, or skills, focusing on the same subject. The Forest Service has embraced this planning approach as a means of coordinating multiple uses and activities.

Another requirement of NEPA which has had far-reaching consequences was that plans or contemplated actions had to have public review by other agencies, organizations, or individuals having environmental responsibilities, expertise, or interests. This requirement started making the planning process, or the steps in the development of plans, more visible to the public.

NEPA did not necessarily stop functional plans or planning. It certainly increased the quality of the plans and perhaps kept the dust from gathering on some of them. From a land manager's perspective, it was still quite hard to keep track of what all the various plans required him to do or prohibited him from doing. He still continues to run into problems of conflicts between resource plans and directions.

The Eastern and Southern Regions of the U. S. Forest Service began developing, around 1970, a system for managing a national forest which envisioned a three-level planning process. This process consisted of an area guide, which covered large areas of the country, such as the Appalachian Mountains, New England Area, the Ozark Highlands, and the Lake States. Since the areas encompassed several national forests and in some instances portions of both
Forest Service regions, the area guides were to provide overall policy and direction for the next level of planning, that of each of the national forests. The forest plans were to be more specific to the individual forest. They were, however, intended to be all-inclusive in that all resource plans were to be integrated and subject to the forest plan. The final or third planning level was to unit plans, which were to be quite specific to land areas within individual national forests. Unit plans were also to be multiple-resource plans, dealing quite specifically with the what, where, and when of the various management actions which were to occur on national forest lands. In keeping with NEPA, the whole process was to be interdisciplinary and was to utilize public involvement throughout the planning process.

Subsequently, the area guides were in most instances completed. However, forest plans met with varying degrees of success. Some national forests were able to complete their forest plans and even get into unit plans. Others, recognizing the validity and need for the forest plans but not having the resources to formulate them, developed interim guidelines to serve as the forest plans. Other national forests, quite frankly, just spun their wheels. There was still resistance to abandonment of functional planning. Existing functional plans, or those in development, were not to be totally abandoned. Other events were also occurring which, in some cases, took precedence or had to be responded to.

A prime example of what is meant by "other events," and one which is quite pertinent to this workshop, was the issuance of Executive Order 11644 February 8, 1972. The stated purpose of this Order was to establish policies and provide for procedures that would ensure that the use of off-road vehicles on public lands would be controlled and directed so as to protect the resources of those lands, promote the safety of all users of those lands, and minimize conflicts among the various uses of those lands. In most instances this Order necessitated the development of a separate (functional) off-road vehicle use plan on national forests. This was the case for both national forests in Wisconsin. Both the Chequamegon and the Nicolet National Forests did develop ORV plans which are in effect today. These plans were developed using resource data available at the time, and both had public involvement and input.

Other events which were occurring which impacted current and future forest service plans were the passage of the Forest and Rangeland Renewable Resource Planning Act of 1974, commonly referred to as the Resource Planning Act or RPA; and the later amendment to the RPA, the National Forest Management Act of 1975, commonly known as NFMA. Both of these Acts are providing the impetus, the driving force, direction, and policy for comprehensive, multi-objective...
resource use planning. Both are quite specific in directing the U. S. Forest Service to issue rules to guide its national forest system land and resource management planning. I will go into further detail of how these Acts affect our future planning efforts and plans shortly.

The passage of the NFMA created quite a shock; a positive one as I perceive it, not because it mandated revolutionary planning concepts for the Forest Service, but because it legitimized and speeded up the adoption and standardization of the very planning concepts that the Forest Service was groping with. Most national forests were in the throes of coping with a multitude of resource issues and conflicts with environmental concerns, public involvement procedures, and the demands of various pressure groups. Many forest resource plans were halted in mid-stream and are now in a holding pattern. Because the Acts mandated the Forest Service to come up with the planning regulations, many forests are choosing to wait until these regulations come out. And, because these regulations are to have public involvement and review in their formulation, it is only now that they are being finalized.

To understand what future planning in national forests will be like, we must interpret the forthcoming regulations which were published in the Federal Register August 31, 1978. These proposed rules will implement provisions of the RPA as amended by the NFMA. However, before I get into the specifics, there are several general points which I would like to make or, if you wish, philosophize about. We, the Forest Service, will be embarking upon a very intensive planning effort for the next five years. In terms of Forest Plans, there will be no functional plans as we knew them in the past, although functional resource data gathering and data bases will still be utilized.

There will be one grand resource management plan for the forest which will integrate planning for all uses of national forest lands and grasslands, including timber, range, fish and wildlife, water, wilderness, and recreation resources, together with resource protection activities. These plans, according to the Acts, will be completed by October 1985. Of great emphasis in this planning effort will be on interdisciplinary planning teams and intensive public involvement in the formulation of these plans.

Specifically, the Acts mandate that an interdisciplinary approach will be used in land management planning, and that there is a periodic review of the planning process. These Acts (Statutes) also provide for the establishment of national, regional, and local resource goals which are based on the assessed capability of the national forests and national grasslands. Furthermore, they require public participation in the development, review, and revision of land and resource management plans and the coordination of such plans with those of state and local units of government and other federal agencies.

The rules promulgated in response to the Acts speak to several purposes and make some general requirements. One purpose of the planning process is to seek agreement between the public and those responsible for management of the land on resource development and use. Another purpose is to reflect the optimum attainable benefits to be derived from the land and the costs of obtaining those benefits. The thrust of the planning process will be to retain a fair balance of uses and to reflect the multiple-use consequences of management decisions in the context of changing priorities of society.
The regulations envision three planning levels: national, regional, and forest. This resembles the structure which is used in the preparation of the RPA assessments and programs. Alternative national programs are considered through the renewable resource program developed under RPA, which is used to select long-range programs and policies. Policies on a regional basis will be used to determine the goals and objectives for use in planning for national forests and national grasslands. Thus, the RPA program will be the national plan, the regional plan will further disaggregate the national goals and objectives to the national forests, which will then prepare the forest plans. Under the regulations, the optimum unit for planning purposes has been determined to be the national forest lands under the jurisdiction of a forest supervisor. This is a sufficiently large unit to avoid the adverse consequences that may occur when land units of smaller size are selected, because such smaller units tend to emphasize special interests. It is essential that the use and development of all resources be planned and managed on a common land base. Planning for use and development of each resource on different land bases would complicate planning enormously and make the evaluation of the relative value of the various resources, their interrelationships, and interdependence extremely difficult.

All levels of planning will reflect the following principles:

- Balanced consideration of the renewable resources and multiple uses;
- Establishment of goals and objectives for the sustained outputs of products and services without impairment of the productivity of the land;
- Protection of and, where appropriate, improvement of the quality of soil, water, and air resources;
- Preservation of important historic and cultural resources aspects of our national heritage;
- Systematic interdisciplinary approach;
- Coordination with the resource planning processes of state and local governments, other federal agencies, and Indian tribes;
- Public participation;
- Responsiveness to changing needs and conditions of the land and the American people; and
- Provision for the safe use and enjoyment of the forest resource by the public.

Where does all this lead us, and you, in the planning process and development of plans. I believe we are at the beginning of a very dynamic and intensive planning effort on the national forests. We have a direction, a goal, and an objective in terms of producing forest land management plans which will deal with all resources. However, more important, we are also going to need your involvement in the effort. It is with a sincere plea that we ask you all to become involved and partners in the development of future forest plans.
A unique situation exists in the United States today, which sets us apart from the rest of the world. In our land of plenty, where the automobile is king, we have chosen not to rely on inexpensive personal transportation as do many citizens of other nations. The use of the motorcycle in America leans heavily toward sport and pleasure riding. The fantastic sales that have been enjoyed here in California by motorcycles are attributable to the machines' abilities to provide pleasure, relaxation, and stimulating exercise.

Cross-country motorcycling is an answer to many for stimulating exercise and the enjoyment of a competitive challenge. This use was recognized by the Bureau of Land Management rather recently in our "time frame" of management of public lands. In fact, it was back in 1968. The Bureau recognized the sport of cross-country motorcycling in a publication entitled The Motorcycle and the Public Land. This report summed up the basic situation as we saw it 10 years ago. At the end of that report, some ideas were presented about what should be done.

The suggestion was made to do an in-depth study of the impact of cross-country motorcycling on public domain lands, and it was recommended that the study should pinpoint areas being used, the impact of this use on soils, vegetation, and wildlife, and the extent of conflict with other uses. The report went on to state that "when the facts are clearly spelled out, the Bureau should develop sound management practices for motorcycle use on public lands and should seek improved legal and regulatory tools and the enforcement capability to ensure that management practices can be put into effect."

Like many other plans and goals, the suggestions of 10 years ago have been slow in coming. For instance, it took a number of years to develop the budgeting process where money could be made available for the program. At the same time, general interest in the public lands was increasing, especially in the California Desert.

It was pointed out to us by our people and others that the California Desert possibly has the richest on-shore mineral potential of any area in California, and that fragile desert soils are extremely productive; more than 700 species of flowering plants grow and 200 of these are found nowhere else in the world. Scientific and cultural values are extremely important and offer much in interpretive and educational opportunities. The California Desert is host to a fascinating and varied array of wildlife, including rare and endangered species like the desert bighorn sheep, the desert pupfish, and the desert slender salamander. The production of livestock is quite important in the region, with more than one-third of the area supporting vegetation valuable for livestock grazing. And recreation, one of the greatest values of the California Desert, offers a myriad of unique recreational...
opportunities, from sightseeing to cycle riding.

This developing interest in our public lands forced the Bureau to spread its available money and manpower in many directions. We could not concentrate our efforts on off-road vehicles alone.

The Bureau recognized that off-road vehicle use was a valid form of land use which must find its place in the total resource management program, and we had no intention of eliminating this type of use from the public lands. However, there was, and still is, a critical need to preserve and protect the soil and vegetative resources of areas containing outstanding scenic value, significant flora and fauna, fragile watersheds, cultural sites, endangered wildlife and wildlife habitat, and certain types of recreational or natural areas. It was felt that intensive unregulated off-road vehicle use could seriously damage and destroy these lands and resources, while at times conflicting with other legitimate uses.

In the fall of 1971 we started issuing letters of authorization for competitive events. Later in 1972 we instituted our current program of authorizing races through special land use permits.

At the same time we were addressing ourselves to the broader off-road vehicle challenge. Where can they go? How much punishment can a fragile ecology take from off-road vehicles?

In November of 1973 we issued our interim ORV Recreation Management Plan for the California Desert. This plan followed the policy guidelines of Executive Order 11644 of February 1972 which set out a unified federal policy toward the use of off-road vehicles on federal lands. The main objective of this plan was, and still is, to manage the public lands for outdoor recreational use in a manner which will protect the health, safety, and comfort of the public, and protect natural resources and values. In the last four and one-half years, as we accumulate new information and experience, we are making changes in the plan.

The Bureau has developed some information on the effects of off-road vehicle use on the public lands, especially from specific actions, like the Barstow to Las Vegas Cycle Race in 1974. However, it wasn't until this year that we were able to budget to initiate a comprehensive analysis of the effects of off-road vehicles on the public land environment.

Public awareness of the California Desert has been a long-standing concern of the Bureau of Land Management.

Months back, Dr. Mayhew of the University of California, at Riverside, an Advisory Board Member, shared some of his knowledge of the complexities of the desert natural systems with ORV enthusiasts as part of a field trip to the Kelso Sand Dunes. This experience planted a seed, not only with the Bureau but with ORV enthusiasts and the academic and educational sectors. Several ORV clubs requested some type of educational program. We in the Bureau were eager to pursue any manageable approach to meet this need. One of our early proposals was for a program of adult environmental education through the extension services of the colleges and the university system. Several ideas were investigated; from formal adult education courses, to field classes where
desert specialists from the local colleges and universities would teach ORV club leaders, who in turn would lead field trips for their club members.

After exploring several possibilities with four-wheel-drive ORV leaders, the "Desert Awareness Event" was developed to best meet the needs of all. The thought behind the selected approach was that the desired type of learning experience could be best achieved through

- on-site participation.
- checkpoint presentations done by desert (local college and university) specialists.
- a mode of vehicle activity, i.e., an ORV event.
- education directed toward desert resources, values, and interrelationships.
- and, finally, a learning experience on familiar ground.

In contrast to other BLM sanctioned ORV events, the focus on this event was primarily educational. The event was jointly sponsored by BLM and the four-wheel drive associations. A great deal of the ORV club effort should be credited to the Associated Blazers of California. The leading ORV participants and BLM mapped out the course and BLM management personnel performed all the necessary environmental assessments and administrative requirements for the event. BLM, ORV leaders, and university and college specialists jointly developed the objective and design of the event. The event was a twelve-mile course with ten checkpoints. Each checkpoint, adjacent to the road, was staffed by a desert specialist and an ORV representative. Participants spent a day and a half rotating through the course in nine groups with five and six vehicles in each group. There were different subject matter and new learning experiences at each checkpoint.

At registration the participants received a desert awareness patch, a plaque for their off-road vehicle, general information on the event, a desert awareness booklet, and a pamphlet entitled Plants, Animals, and Geology of Red Mountain. All this information had been developed especially for the event. However, the pamphlets on awareness of plants, animals, and geology of the region have become useful in subsequent environmental education experiences.

The 50-some-odd four-wheel drive vehicles registered were divided into groups and assigned to a specific trailmaster. His job was to get the group to the initial prearranged checkpoint on time and subsequently to the appropriate succeeding checkpoints according to schedule. It wasn't necessary to own an ORV to attend the event. Participants who didn't have ORVs, including many BLM personnel and their families, rode with other participants.

In addition, it was felt even more was gained as the desert awareness event was received by all concerned as not only an enjoyable, but a meaningful experience. It was shared by a wide variety of people, each giving and

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2 This discussion of the Desert Awareness Event in public presentation includes slides taken at the event.
receiving in his own way, becoming aware of the needs for plants, animals, and people all in the desert environment.

It is our hope in the Bureau that future desert awareness events will generate as much excitement and enthusiasm for learning as was experienced in the Red Mountain area in November. We do have a tentative date of late spring to hold another ORV Desert Awareness Event. We are looking forward to the cycle enthusiasts involvement in the upcoming program.

In summary, the public lands are available to ORV use, the management of which is a large part of our agency's program. It must be managed use or it will be a destructive use that cannot be tolerated.

TRAILCYCLISTS: WHAT THE HECK DO THEY WANT?
by Gary Buffo

We are all aware of the growing concern with off-road vehicles. We know that Washington State is not unique in recreational diversification of this type. We are further aware every form of outdoor recreation has an environmental impact. Hikers tip-toe through tulips, equestrian traffic can squash bugs. But, compromises have been made, in most cases, to accommodate these "traditional" forms of recreation. Why should a diversified form of recreation, such as trailcycling, be placed in a separate category?

There are many similarities in social and psychological benefits received from different leisure activities. Who is to say which activity has the greatest benefit? Are more benefits received from snowskiing or mountain climbing? Which is more rewarding, playing tennis or golf? The answers to these questions lie in the minds of the participants.

Dr. Steven Lamphear has conducted a study of personality and recreation. Its purpose was to discover relationships between personality and selected recreational activities. One of his conclusions was, "the manner and extent of participation in selecting outdoor activities is, in part, a function of personality."

Dr. William Menninger, a noted psychologist, stated,

... mentally healthy people participate in some form of volitional activity to supplement their required daily work ... Their satisfaction from these activities meets deep-seated psychological demands, quite beyond the superficial rationalization of enjoyment ...

Menninger didn't say "most forms" of recreation, or "some forms;" he said "recreation" ... satisfied deep-seated psychological demands ..." Therefore, the first step to an objective dirtbike program is to recognize dirtbiking not as a three-headed monster that's out to ungulf the land, but as a
relatively new form of recreation which must be addressed. Second, and more important, we must use the same basic criteria when providing for all forms of outdoor recreation, that is, environmental impacts, user-group conflicts, and recreation requirements.

It makes no sense not to consider all three factors. However, too often it appears that environmental impact and user group conflicts are given prime consideration, while dirtbiker recreational requirements are de-emphasized. It is ludicrous to develop trails or areas which are inconsistent with user requirements; they won't be used. What will be used are lands that complement the activity.

So, you say, "What the heck do they want?" Trails have been "improved" to reduce soil erosion by constructing shallow trail grades with wide turns. Logs and large rocks have been removed for safety reasons. And what do they do? They get off the trail and zip up the sidehill. We've provided trail heads and parking lots, and they ride up the bank. My response: go back to the drawing board and find out what they want. If a compromise cannot be reached, the problem will continue. When land managers seek solutions to dirt-biking problems, they must first obtain a thorough understanding of the biker's recreational requirements. In doing so, managers will come much closer to adequately providing for the activity, as well as reducing environmental impact and user-group conflicts.

Understanding dirtbikers is imperative. His leisure requirements appear to be intrinsic as well as extrinsic, and, therefore, the rider's overt recreational behavior does not necessarily depict the need and benefits derived from the activity.

In essence, simply because a biker is zipping along a back country trail and negotiating obstacles as though there is no tomorrow doesn't necessarily mean he is not cognizant and appreciative of back country esthetics. However, one must admit if he spends too much time observing flora and fauna, pending his speed, he's going to find himself making considerably closer contact with nature than he had originally intended. As bikers in this area know, fir trees can smart!

The point is, motorcycling can be an extension of the self, a chance to release pressures and frustrations. The user may be seeking experience lacking in everyday living, things like esthetics, solitude, fellowship, competition and exploration. These, and other needs, call for a greater diversity of recreational options and a thorough understanding by land managers.

A clear understanding of trailcycling by professionals involved in outdoor recreational planning cannot be overemphasized. Floyd Newby points out in his "Three Alternatives for Trail-Cyclists" that land managers have but three choices:

(1) Ignore off-road vehicles and hope that they will go away, (2) recognize their existence and impose controls upon the user, or (3) recognize their value as people and develop a range of opportunities which will assure minimal adverse environmental impact while providing a greater environmental experience to participants.
Newby goes on to say we have tried the first two and failed.

In 1976, I conducted a study asking two hundred dirtbikers in Pierce County, Washington, what the heck they wanted in their recreational experience. The study was directed toward back-country riders: those who transported their bikes by truck, van, or trailer to the riding area.

These findings do not necessarily reflect the needs of a specific motorcycling sub-group commonly referred to as "minibikers." However, they will be discussed, in brief, later in the paper.

Several hypotheses and a couple of corollaries were included. But the one I wish to discuss suggests dirtbikers really incorporate both casual and endurance riding characteristics within their off-road experience, with a slightly greater emphasis toward endurance than casual riding.

Casual and endurance riders are defined as absolutes on a dirtbike continuum. At one end of the scale we find the casual rider. He's the one who uses his machine as a means to an end. In his case, esthetics are paramount while challenge and competition are unimportant. You might find the casual rider traversing a "developed" trail for the pure enjoyment of reaching a mountain vista. At the other end of the scale we find the endurance rider. Here is a guy who doesn't care where he rides as long as the traction is good and the challenge adequate.

The objective, then, of the casual-endurance scale, was to place each respondent somewhere on the continuum between the two for a better understanding of what he is really looking for.

If we assume dirtbikers are either endurance or casual riders, then areas and trails might be established to satisfy this assumption. For example, if most bikers are best described as endurance riders, then perhaps the motorcycle park or relatively non-esthetic area would satisfy their needs. If a significant portion are casual riders, perhaps trails and areas could be designed to substantially reduce environmental impact and afford access to an esthetic back country experience.

Casual riding objectives might be reached by dramatically "improving" the trail. "Improvements" might include: (1) bridges to eliminate stream crossings, (2) removal of obstacles, such as logs, large rocks, etc., (3) shallow grades and wide turns, and (4) heavy reinforcement of observed or potential environmental impact problems. In this case, the off-highway motorcyclists consider challenge, esthetics, exploration, and fellowship as an important part of their sport.
challenge of traversing the trail would be reduced. Access to the area and esthetic opportunities would be enhanced.

If bikers are found to be neither absolute endurance nor casual riders, then such areas should not be developed. They won't be used. What will be used are areas that satisfy the users' recreational requirements. And guess what, folks? That puts us right back where we started.

Therefore, the respondents in the study were asked to score a series of twenty-four statements indicating the importance of benefits and activities associated with dirtbiking. The scores ranged from one to nine, with one as "not very important." The statements included both casual and endurance emphasis. For example, a casual benefit statement might be "listening to a mountain stream." An endurance benefit might be "recalling challenging terrain."

Without going into the details of tabulation, I will simply say, a composite score, based on response to all 24 items, placed the bikers in the study somewhere on the casual-endurance continuum. The result was that the respondents fit neither the casual nor endurance absolutes, but a composite of the two with slightly greater emphasis toward endurance riding. Therefore, they appear to be seeking such things as challenge, esthetics, exploration, and fellowship, similar to those sought in more traditional forms of recreation.

You say, "Gee! That's great! All I have to do, as a manager, is find about 100,000 acres that are esthetically appealing, have plenty of challenge for those back country wizards, yet traversable by less experienced riders. Provide a few poker runs and enduros to satisfy the competitive needs, and make sure the trails are long enough to provide for adequate exploration. About 30 to 50 miles should be about right. Then I'll have my act together."

Well, not quite; you must also consider the trend toward family riding. The respondents indicated that 75 percent rode with their families some of the time. Further, 60 percent felt they would definitely increase this family experience.

It would be nice, of course, to realize a managed dirtbike area with all the goodies, as previously suggested, but in most cases it's just not possible.

Therefore, on the basis of dirtbiker response and other material within the study, it is strongly recommended that when designing trails and areas for bikers, consideration should be given to the endurance as well as the casual aspects of the ride. To exclude one or the other contradicts the data found in the study. Areas should be developed to enhance the total recreational requirements of the dirtbiker. This can best be accomplished by incorporating trails that provide challenge as well as esthetic appeal.

Before I leave this subject entirely, I would like to briefly mention one alternative used in addressing dirtbiker requirements: the motorcycle park.

Managers considering motorcycle park alternatives must be cautious in defining their objectives. Such parks are an answer, but not the only answer. Regardless of the park's design and management qualities, problems arise with this alternative when the users' needs are stereotyped. There is no way motorcycle parks can serve as substitutes for the freedom of back-country trails.
However, such parks appear to be most effective in satisfying a specific dirt-biker group. These are riders who, due to their ages, skills, and economic situations, have limited transportation to and from riding areas and thus are confined to "neighborhood" riding. These riders are dominantly male and vary in age from 5 to 16. They usually can be found riding the smaller machines, 125cc and below.

In general, riders in this category do not appear to place a high priority on large parcels of land but simply are looking for a place to ride. Areas as small as a dozen acres may be adequate, depending on recreational demands and supportive capabilities of the site. However, it is imperative that sites of this nature be strategically located to afford the young rider the opportunity to push his bike to and from the riding area. This "mini-park" concept not only satisfies this sub-group's immediate trailcycling needs, but can be supervised. Such parks also provide opportunities, pending size for novice as well as experienced adult and teen cyclists. In cases where time is of the essence, a short ride after work or during the weekend is all they may require.

Motorcycle parks may be initially satisfactory for some, but when value shifts occur, additional opportunities are required. As riders mature and develop riding skills, shifts in values will occur. Emphasis on challenge and competition may take a lower priority than before. Conversely, esthetics and exploration may become more important to the individual. These value shifts, unique to each individual, require something beyond the motorcycle park.

In essence, the motorcycle park may be completely adequate for some, yet for others may represent little more than a redundant accumulation of miles. Where cycle parks should be implemented and what percentage of the population would utilize such areas are questions that should be given careful consideration.

**BPA AND ORV**

*by Thomas Kornelis*

"The candy-apple red Ford Bronco paused at the ridgeline for just a moment before slamming into the brush which lines the narrow trail. The driver gunned his engine and swerved through the soft red mud while gravel and dirt shot out in high roostertails behind him.

"'Nail it,' yelled his friend.

"'That's the only way to go,' he shouted back.

"The four-wheel drive dug in until its oversized tires found a hard path of ground and the Bronco lurched ahead.

"The two men laughed when they reached the road and stopped to put in a fresh

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pinch of Copenhagen. Their map was spattered with clay."

* * * * *

"It's a good thing the two men know each other because they don't have many friends.

"Among landowners in the Mohawk Valley, they have hardly any.

"Private landowners and public agencies alike say independent four-wheelers are tearing up prime timberland and are causing erosion problems. They say the erosion and the repair to dirt roads is costing them money—money which they can recover only by passing that bill along to the consumer.

"All the landowners say they have no gripe with the organized four-wheeling clubs in the area. In fact, they applaud their members for their courtesy and thank them for asking if they can ride on their property.

"But nobody has any kind words for four-wheelers who trespass, drive on rain-soaked roads, shoot up their property and merrily roar off into the sunset."

I have just quoted from an article from the August 9, 1977, issue of Springfield News (Oregon)—"The Landowners Are Mad in Jeep Country," by Rick Bella, News Staff Writer. An accompanying picture shows a hill—easterners would call it a "mountain"—honeycombed with trails for four-wheel drive rigs and motorcycles. It also shows three high-voltage transmission lines owned by BPA. The pictures do not, and could not, show adequately the deplorable condition of ruts, scarred hillsides, mudholes, debris, hard-packed soil and total disregard for property owned by others that are also evident.

Signs on BPA towers are nearly indiscernible because of accurate—or inaccurate—target practice. The area looks as though war games had just been held.

Is this a real problem, or is it just those emotional nature lovers stirring up the environmental dust and mud? It is real—and, it is costing money—something most people understand.

The Bonneville Power Administration has over 12,000 miles of transmission line right-of-way located in Oregon, Washington, Idaho, Wyoming, and Montana. The mountainous type of terrain, the cleared rights-of-way, and the unimproved access roads are delights to the off-road vehicle users. The water bars in the access roads present a challenge to both the four-wheeled rigs and the motorcycles.

The wet weather experienced in western Oregon and Washington heightens the pleasure and challenge. Needless to say, the water bars are sliced with ruts and disastrous erosion occurs. In dry weather, the smoking dust clouds mark the trail of the rugged individuals exercising their sport. Locked gates are crashed down or pulled up by the practical use of the winch attached to the bumper of the vehicle. Signs are used for target practice and troublesome "No Trespassing" signs are quickly removed and disintegrated—at least they are not to be found on the premises.

Although ORV users are not to be blamed exclusively, transmission line
insulators are also used for target practice, challenging the reliability of the electric transmission grid upon which the whole Northwest depends.

The cost of maintaining access roads, repairing and replacing gates, etc., is greatly increased. Last year we spent $260,000 replacing insulators, most of which had been shattered by rifle fire. (Hunters? They use ORVs. In fact, they are a status symbol.)

Landowners become antagonized and sign petitions requesting BPA to do something about the trespassing caused by the opening of land to such uses in the construction and maintenance of the line. Negotiations for new rights-of-way are made difficult because of the possibility of ORV users trespassing along the proposed new right-of-way.

Most of BPA's transmission line rights-of-way are held in easement; that is, BPA has only the right to construct, operate, and maintain a powerline or lines; all other uses which will not interfere with the transmission line are retained by the landowner. It would be easy to allow the problem to be just the landowner's problem; however, the problem many times exists only because the transmission line is there. BPA feels these are common problems and steps must be taken to find solutions.

In those areas where BPA owns a strip of land on which the transmission line stands in fee, we have a direct responsibility to manage the land. BPA has already tried the obvious solutions (and there are no subtle ones) to prevent unauthorized use of these areas. Paths and roads have been gated and regated with stronger gates. Signs have been posted, reposted, and reposted. Access roads have been screened and rescreened. Trespassers have been caught, tried, fined, and required to pay damage.

Several local governmental agencies have passed ordinances which provide, in part, that no land is available for use of off-road vehicles unless the operator has in his possession a permit signed by the owner of the land. This seems to be a fairly effective deterrent.

The use of ORVs is a wholesome and legitimate pasttime, and properly controlled, should be allowed. A permit was requested and approved for a motocross park on a transmission line right-of-way over two years ago and we have had no problem with it.

At the present time, we are working with a county in Washington and with the Bureau of Outdoor Recreation with the hope of turning over to the county some of our fee-owned right-of-way for recreational purposes, a part of which they may develop into a motorcycle riding area. If this proves successful, this type of procedure may be expanded with other local governments.

It is apparent that there is a need for places where ORVs can be enjoyed. Some possibilities are

1. Contact the real estate people of your local power company. They may own their right-of-way in fee, which would give them full control of the right-of-way. If they only hold the right-of-way in easement, it should still be considered, as there may be some areas that are suitable for off-road use. Some USGS 'topog' maps show transmission line rights-of-way. Review the maps with
the power company land man to discuss possible locations.

2. **For those locations which appear to have possibilities, investigate the ownership.** If the right-of-way is owned in easement, go to the registrar of deeds at the county courthouse and determine who owns the underlying fee.

Now the difficult part: Utilities are extremely public-relations conscious and want to be good neighbors. Therefore, the approval of the adjacent landowners must be encouraged. Recently, a private utility granted rights to use their right-of-way for a bicycle path. No explanation or information was given to the adjacent owners until after the grant was made and use was started. The adjacent owners were very unhappy until the full project was explained to them.

Of course, a plan must be developed, supervision assured, and regulation evolved which can be enforced. Utility entities, of course, will require that the transmission line will not be endangered and that the users will not be unduly endangered by the line.

3. **Other areas that should be investigated for possible ORV use are**

- drainage canals or ditch rights-of-way.
- irrigation canal rights-of-way.
- pipeline rights-of-way.
- highway rights-of-way or excess highway land.
- vacant land.

BPA is hoping to find ways to reduce the ORV problems by controlled use instead of universal restriction.

**TRAILBIKE NOISE**

by Robin T. Harrison

Noise is commonly mentioned as a trailbike problem. Many people who dislike trailbikes in general focus on the noise as the most unpleasant aspect of trailbike operation, and concentrate their opposition to any trailbike use on this basis. However, experience shows that properly silenced and managed trailbikes are not a problem. Indeed, having properly managed trailbike areas solves noise problems in the community at large; an attractive trailbike facility gets the minibikes off vacant lots in a neighborhood, and allows the land planner and manager a measure of control over the location of trailbike use in the community, the noise emitted by each individual trailbike, and the trailbikers themselves.

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Noise in general can have several undesirable effects, depending on how loud it is. The most severe noise problem is that of hearing loss. If a person is exposed to loud enough noise, long enough, he will suffer permanent hearing damage. While some possibility of hearing damage exists for trailbike riders, it is remote; the possibility of trailbike noise causing hearing loss in bystanders is nearly nonexistent. There are non-auditory health effects of noise exposure: hypertension, heart disease, etc.; however, most authorities agree that these are by-products of the general unremitting stress syndrome brought about by excessive noise. Sleep interference and interference with spoken communication are two more general effects of noise, but, except in especially severe problem areas, these effects will not result from trailbike operation.

Annoyance with the noise of trailbikes is surely the most common trailbike noise complaint. Before we discuss how to deal with this complaint, we will explore briefly how a trailbike makes noise, and how this noise is measured.

The most significant noise source within a trailbike is the exhaust system, if the bike is unmuffled. However, other portions of the trailbike also radiate noise. The air inlet, the chain, mechanical internal noise, and noise radiating from exhaust pipe and muffler shell all contribute to the total noise signature. The manufacturers of all modern trailbikes have taken great care to silence all of these noise sources. Most common trailbike noise problems fall into two categories, both of which focus on exhaust noise. Most serious is probably the use of motocross bikes in a trailbike area. Motocross motorcycles are quite loud, since they are designed for use in a controlled, closed course environment. Motocrossers make good trailbikes for some wide-open areas, and high performance characteristics are desired by some riders. Most motocross bikes can be silenced to an acceptable level by the installation of a proper muffler, but even with a good muffler, air intake silencer, and rubber snubbers between the cylinder and head fins, some motocross bikes are still too loud for trail use. But almost all can be brought into compliance by the methods just mentioned.

The second noise problem that is likely to occur is the trailbike whose muffler has been removed or modified. Many younger trailbike riders are still mistakenly convinced that merely removing the muffler or removing the baffles from it to make the trailbike louder will increase power. It does not, but because race bikes are loud, it is thought that by making a trailbike loud it will turn into a race bike, apparently. This problem is more easily dealt with since these motorcycles can be brought into compliance by reinstalling the stock muffler or a high quality accessory muffler. It might be helpful to mention at this time that many jurisdictions require a spark arrester in addition to a muffler on all off-road bikes. The spark arrester is not, in most cases, an effective muffler, unless the spark arrester is of the arrester muffler combination type.

The most common method of measuring noise from trailbikes is the method prescribed by the Society of Automotive Engineers in their recommended practice J331a. The most common limit by this test method, is 86 dBA at 50 feet. The A-weighted decibel is a measure of noise as perceived by the human ear/brain combination. dBA is a strange unit in that dBA's do not add directly. The softest noise that the human ear can perceive is about 130. However, because this method is a complicated engineering test it is not useful for enforcement, so, it does not help the land manager much to know that a trailbike should
comply with an 86 dBA limit, when he can't measure this limit.

Attacking this difficulty, the Motorcycle Industry Council, working in conjunction with the U. S. Forest Service, the State of California, and other land management agencies has developed a noise enforcement test method. This method, MIC/E-79 can be obtained from the Motorcycle Industry Council, 4100 Birch Street, Suite 101, Newport Beach, California 92660. The MIC/E-79 noise limit, which approximately corresponds with 86 dBA at 50 feet by the SAE test method, is 99 at 20 inches.

If the land manager's staff is equipped with inexpensive sound level meters, and trained in the MIC method, it becomes a simple matter to enforce the trailbike noise limits. The MIC test is quick and easy to run, and has successfully withstood court tests. The most successful land managers use the method not only to issue citations but, more important, to demonstrate to offending trailbikers how they are out of compliance, and solicit their cooperation, before more punitive measures are taken.

The key to successful trailbike noise control is land use planning. However, land use planning with regard to noise is dependent upon the planner knowing how loud his noise sources, in this case trailbikes, are. The only way to ensure that the planner knows this is for the land manager to insist upon strict enforcement of the above mentioned noise limits.

There will be two major facets of conflict revolving around trailbike noise which the land use planner should strive to minimize. The first is the use of trailbikes around noise sensitive areas; the second is encounters between motorized and non-motorized recreationists on trails. Planning for the first type of encounter is straightforward, even though technically difficult. The U. S. Forest Service, in cooperation with the U. S. EPA, has developed a method of predicting the impact of trailbike noise on sensitive areas such as campgrounds, picnic areas, etc. The method considers not only the physical factors of the site which affect how loud a trailbike seems to be at a distance removed from the trailbike, but the probable expectations with regard to quiet of the users of the area. Things which affect how loud a trailbike, or any other noise source for that matter, appears to be at a distance remote from the trailbike are the distance between the noise source and the listener, the temperature, humidity, wind direction, and land forms intervening between the trailbike and the listener. The type of ground cover and trees between the trailbike and the listener have only minor effect, contrary to popular belief. All of these parameters are considered in the U. S. Forest Service-EPA prediction method mentioned above. The method can be obtained by writing the U. S. EPA, Office of Noise Abatement and Control, Crystal Mall #2,
Arlington, Virginia 20460.

In the second area of noise conflict, that of encounters between trailbikers and hikers, experience has shown that the noise of the trailbikes will not be a serious factor in these encounters, provided that the hikers are made aware of the fact that the trail upon which they're hiking is a dual-use trail, that they may expect to run into trailbikes and that the trailbikes have been silenced to the level which was discussed above.

In this brief paper, it has not been possible to explore thoroughly the causes, effects, or cures of excess trailbike noise. However, the author hopes that the reader has a better understanding of trailbike noise, and where he may turn for help with specific problems. The important thing to remember is that trailbike noise, just like any other aspect of trailbike operation, can be planned for and managed, and if properly planned for and managed, the problems can be minimized or eliminated.

THE DIRTBIKE AS A FORM OF OUTDOOR RECREATION
by Phillip C. Briggs

Most of you here today make your living entirely or in part by planning for and managing other peoples' recreational needs. Some of these people ride dirtbikes, which brings you to this workshop.

And yet, from my experience in Arizona and our neighboring states, I'd say some of you may have adopted the popular view of the dirtbike as a problem—an anathema best dealt with by proscription—rather than a recreational need. If this is the case, management translates to closure, to prevent irreparable damage to the resource, of course, with the hope that the obnoxious things will go away.

However, I'd like to take a few minutes of your time to tell you what I think the real ORV problem is, why I think dirtbikes won't go away, and to share with you my thoughts and observations on the recreational use of the dirtbike.

A lot of studies have been conducted these last few years on the impacts of ORVs on wildlands' resources. Some were very scientific, some weren't. Some were good, some were bad. Arising from this mass of information is the irrefutable conclusion that ORVs—including motorcycles—can cause damage to the land.

But so do a lot of other users of the land—miners, ranchers, developers, wild burros. These have not received as much attention as off-road motorcycles. Why? There's been research that touches on that, too. Arising from that more limited amount of information is the equally irrefutable conclusion: the ORV problem is a people problem! Conflict. Citizen against citizen, user against user. All the expressed concern over resource damage is smoke when related to the ORV problem that centers upon

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personal resentment, dislike, and even hatred!

It's important for the recreation planner to understand this, the real why and how of the land closure problem. Important because, as many of you know, it's often not resource impacts that preclude creation of ORV recreation areas, but protest from a vocal public, sometimes a vocal minority public.

The body of information on the people-to-people conflict has been recently summarized by Robert J. Bodaracco in an article published in the September 1976 issue of Parks and Recreation. Bodaracco's research indicates, "... considerable negative, often intense, sentiment toward off-road vehicular activities ..." The author found no studies which identified positive feelings toward off-road vehicle users among participants in non-mechanized recreational activities.

In California, where the ORV problem has led to stringent restrictions on ORV use, the state Department of Parks and Recreation concluded in a 1975 report that, "Among the greatest of these problems is the intense and often emotional conflict between ORV users and nonusers. Nonusers fault users for the noise they make, for disturbing wildlife, for damage to vegetation and soil, and for the growing incidence of theft, property damage, and vandalism ... It is clear that the differences between ORV users and those who protest their intrusion and the damage they cause will be irreconcilable."

While virtually all studies Bodaracco researched indicated hostility on the part of nonusers toward ORV users, the reverse was not true. The opponents contend that their satisfactions are directly impaired by ORVs, yet the non-user does not affect the activities of the user. The one-way nature of the conflict helps to explain the lack of understanding between the conflicting groups. The vehicle destroys the quiet, undisturbed natural environment the foot-powered user is seeking.

Many studies demonstrated that conflicts over space underlie much of the hostility. Both groups require space. The ORV user can devour space in great gulps; the traditional outdoor user needs space for solitude and serenity. Even when the hiker doesn't hear the biker, tire tracks on his path or a scar on a hillside intrude into his solitude, reminding him of the civilization he seeks to avoid.

Of all the problems related to ORVs, noise is one of the most often cited sources of discontent and turmoil among recreationists. You can't expect someone who has spent time, money, and energy to get away from the hustle-bustle of the city to be very tolerant of noise motorcycles. The conflict is intensified because bikers as a group aren't equally concerned about noise. Reactions depend upon one's attitudes and perceptions; loud rock music might be acceptable to some campers, where motor noise of the same intensity would not be.

These conflicts are the tough part of ORV recreational planning. Resource impacts can be minimized to an acceptable level by careful selection of riding areas and trails. Overcoming the conflict of "us against them" is not as simple. But we've got to try. Multiple use concepts demand that we try because the dirtbiker, the four-wheeler, the sandbuggy driver are not going to go away.
B. L. Driver, in a paper in the report, Research, Camping, and Environmental Education, published in 1975 by Pennsylvania State University, discusses the general concepts of the "behavioral approach" to planning. Conventionally, recreation is defined as an activity, where the behavioralist considers recreation to be product-oriented, and attempts to determine what goods and services are demanded.

An underlying assumption of this research is that people will seek out those activities that provide them with satisfying experiences. The demand is particularly high for those specific experiences that are most satisfying. And a variety of satisfying experiences are often realized from a single activity.

Driver's study was conducted using four groups of recreationists. They were asked to rank the relative importance of thirteen expected desired consequences of their activities, which, if realized, would become satisfying experiences. Groups participating in social camping, back-country camping, trailbiking, and tennis were interviewed. A scale of one to nine was used, with one being not important.

The data suggest that specific desired experiences are valued differently within an activity and between activities. A few examples will illustrate. Some of the expected consequences were: achievement, being with others, experience nature, exploration, general escape, tension release, and risk taking.

It may surprise some of you that "risk taking" was not top-ranked by trailbikers. Their highest ranking was "being with others" (rank of 6.2). "Exploration" was second (6.1), followed by "general escape" (5.9), "experience nature" (5.8), and "achievement" (5.7). "Risk taking" was fourth from the bottom (4.3).

Social campers and back-country campers picked "experience nature" as tops (7.5 and 7.8, respectively). "General escape" was second for the back-country campers (6.4) and fourth for the social campers (6.6). "Being with others" was third for the social campers (7.0) and seventh for the back-country campers (4.6). "Exploration" was tied for third with the back-country folk (5.7). Tennis players ranked "exercise" tops (7.3) and "achievement" second (6.7).

Comparing ranking between activities, you will see that trailbikers have a mix of behavioral characteristics—they're a lot like the traditional recreationists in several ways. The key point here, though, is that recreational planning and management must consider these experiences to provide satisfaction to this user.
You will recall that I got into this by asserting that dirtbikers aren't going to go away. The reason for that follows from some more research along these lines.

B. L. Driver put his finger on this point in an article in the June 1977 issue of *Environment and Behavior*. He discussed the need for objective measures of the social benefits of recreation, noting managers' intuition frequently differs from users' opinions about the recreational worth of facilities.

Driver discovered the following:

"Personality traits probably influence the choice of recreation activity . . ."  
"Selected personality variables are significantly related to the amount of participation . . ."  
"Personality trait does influence how important different types of desired consequences are to recreationists . . ."  

Or more simply put—they are not going away because the dirt bike scratches an itch that these recreationists can't reach any other way.

Among those who receive satisfaction from off-road riding, there are several types. To many, for example, and I am included in this group, the bike is a means to an end. It is a way to get out, to explore, and to test oneself against a challenge.

To some, though, it is an end in itself. These ride, jump, spin, slide, and play to their heart's content, usually in a relatively small area.

The former—the adventurous rider—like trails and the variety of the outback; the latter may be satisfied with a sacrifice area.

In recognizing these different types, the planner must confront his problems in planning and managing dirtbike recreationists, whether his concern is resource damage and prevention, or providing a satisfying recreational experience.

If your concern is resource damage, do you close all of the land you administer to dirtbikes to save it? No—not if you want something that is enforceable and reasonable. Closing a popular area will just roll the use to an adjacent area—creating enforcement problems and perhaps chewing up more terrain. Better to provide areas that can withstand the use and maybe work to direct the use from areas that must be closed.

If you want to provide recreational experiences, the approach is much the same. Cycle parks, or large areas signed and mapped out are good for the play rider and the less adventurous. Thematic maps of the outback are good for the adventuresome who choose to roam, with signing and some trail work to link up existing travelways to make interesting loops. There should be some low-key educational aids: perhaps a trailrider's code of ethics on the maps or along the trails. Proper planning can also include the sponsorship of clinics on how and where to ride (for both types) and trail rides for the fledglings.
The ORV problem, particularly in Arizona, is not one of resource damage, but rather a people problem—conflict between users.

The ORV user won't go away, and negative approaches to the management of ORV use, besides being unreasonable, are unenforceable.

Dirtbikes are used by different people in different ways. ORV recreation planning and management must accommodate these differences to be successful.

PLANNING FOR DISPERSED RECREATIONAL TRAILBIKE USE:
ONE USER GROUP'S APPROACH
by David Sanderson

What I want to talk about at this workshop is the planning approach the New England Trail Rider Association has taken over the past six or seven years in trying to provide riding opportunities for its members. This has been mainly a private effort by Association volunteers. While we work very actively with all kinds of land managers throughout New England and benefit greatly from riding opportunities on public land, our trail system program has never tried to depend on public lands or public land managers.

There are a number of reasons we have taken this approach. One is that public land managers have not had the resources to engage in extensive planning for trailbike use, nor is the public land base adequate for the kinds of opportunities we have felt were necessary for this recreation. Another is the New England tradition of trail development by private organizations. Groups like the Appalachian Mountain Club have shown us clearly how much a private trail organization can accomplish.

I won't talk much about the basic mechanics of it all. Instead, I want to try to outline some of the thinking that has influenced our approach to trail planning over the years. Let me start with the recreational experience itself, which is where I think the best recreational planning should always start. The trailbike experience is a complex one. People who study the theory of recreation are able to identify a whole series of components of recreational experiences, and trailbiking includes almost all of them at one time or another.

There is a physical element: the demands of strength, balance, and coordination involved in riding the motorcycle. There is an element of fellowship, when one shares the experience with friends or encounters other people as a part of the experience. There is an esthetic and nature-interpretive experience from getting out and enjoying being in the open. And there are even historical elements, which are a significant part of trailriding in New England.

These various facets are identified as being common to all recreation and their presence tells us
that trailbiking offers many of the same rewards as to other recreational activities. The theoreticians will also tell us that the quality of the recreational experience can be correlated to how many and how much of these various elements it includes. In effect, the more the better.

The recreational value of our trail system lies in its ability to offer a number of these values in combination with one another. There are certainly physical values gained from riding a motorcycle around and around in a gravel pit—but in this setting the esthetic, natural, and historical facets of the experience remain unaddressed. Similarly, one gains certain esthetic values from simply driving around in a car—but the physical benefits are questionable at best.

So what we have aimed at with our trail system is a range of riding opportunities which enable our members to get out and ride some terrain which is interesting from a physical point of view, while giving them a chance to enjoy esthetic and other elements of the outdoors in New England.

Physically, the system is a dispersed, linear system of routes relying mostly on existing manmade ways. Recreationally, this provides variety both in the physical and esthetic components of the experience. It helps to ensure that opportunities are convenient for users. While one does not have to drive from Connecticut clear to New Hampshire to have a good trail riding experience—although with our network you can do so—the New Hampshire experience will have unique qualities that make it different from the Connecticut experience.

One of the special things about motorcycle trailriding is the ability to traverse relatively long distances, and see more country than would otherwise be possible. A linear, dispersed system takes advantage of this. The ability of the street-legal trailbike to utilize maintained public roads also gives an advantage here. One can easily link together sections of more interesting off-highway riding by using all kinds of public roads.

Relying on existing manmade ways has both esthetic and environmental advantages. The environmental ones are clear: existing ways have already been impacted by vehicles, and have often been maintained and stabilized so that trailbike use has minimal impacts.

Esthetically, one sees much more on a system of routes like ours than one would while riding in confined areas. In particular, one is able to experience much of the scenery and history that make New England what it is. Old town roads in rural areas are an intrinsic part of New England's rich history and the trailrider who uses them can see this in the old houses, stone walls, cellar holes, and cemeteries along this route. I like to think of this aspect of history and time as a kind of fourth dimension to the experience.

In terms of user conflicts and public impact, a dispersed, linear system has advantages as well. Our trail system currently totals up to about 2,500 miles of routes in the six New England states. Think for a moment about how many riders such a system can accommodate. Then consider what it would mean to try to confine all this use to the limited parcels of public land which exist in New England. From the point of view of other trail users, dispersed use means that it is easy to limit trailbike use on a given piece of land. One or two
single linear routes through a state forest can form part of a large trail system, and provide trailbike users with a valuable experience; yet if the routes are properly laid out the land can continue to accommodate a multitude of other uses.

Conflicts can also be avoided. With an adequate supply of dispersed opportunities, few single pieces of land get used enough to generate insoluble controversies. We have willingly given up most of the White Mountain National Forest to pedestrian users, for example, without suffering any serious harm to our recreation.

By using route sheets we have been able to save ourselves the time, trouble, and expense of marking or signing routes. From the point of view of rider education I think we have accomplished something too. The question, "What do users want?" is not necessarily the same as the question, "How can I plan a quality recreational experience for these users?" As with any kind of recreation, there are good ways and bad ways to use trailbikes, and we think the best way to ensure that they will be used properly is by structuring the recreational experience so that they are. We think there are better, more rewarding ways to use a trailbike than by removing the muffler and racing round and round in the local sand pit. Our trail system is structured to encourage responsible, rewarding trailbike use.

In particular, we feel that a sensitivity to the public and to other trail users is essential to responsible trailbike use. Our trail system does not permit one to forget this. The rider is constantly in public view, and the thrust of all the written material which accompanies our route sheets is toward polite, responsible behavior. Riders are urged continually to use quiet motorcycles, and to be ambassadors for the sport.

A very important element of this sense of responsibility is the proprietary sense which our members have for the system. They know that their fellow members, working as volunteers, laid it out. It may be mostly public roads, but in a sense it is "ours," and the riders feel bound to protect and preserve it. Giving the user a stake in the recreation resource can be critically important to successful recreation planning and management.

Let me finish by looking for a moment at the other side of the coin, and talking about some of the things we would like to see from you as planners and land managers. With our type of trail system, we are not forced to depend too heavily on public officials or programs. This makes it easier for you to deal with trailbike use. On the other hand, it means that much of what we are using has little protection. When a scenic section of trail gets turned into a housing development, we have no recourse but to seek a new route. I think this has to be changed, and not only for trailbike users. As we are now
finding with the Appalachian Trail, public protection for recreational trail use is extremely valuable, but can be very difficult to ensure. It is time to begin exploring methods of protection for more of our trails.

If we lose land to development on the one hand, we probably lose as much to the actions of irresponsible off-highway motorcycle users on the other. We desperately need the help of public agencies to curb these problems, through education and information programs and enforcement. There is almost no control over motorcycle noise in New England at present, and very little over most other aspects of off-highway motorcycle use. This has to change, and soon.

I think we have been fairly successful in finding riding opportunities. Although our main emphasis has been on our own trail system, we have certainly not confined our work with land managers to this facet of planning only. A major concern now is to preserve the opportunities we have developed, and in order to do this we need not only an increased emphasis on on-the-ground planning and management, but some very serious work on the associated problems that continue to impact us so heavily. It is time to begin managing the rider and the trailbike as well as the land.

THE DEVELOPMENT OF TRAILBIKE TRAIL SYSTEMS IN A FOREST ENVIRONMENT
by Joseph J. Wernex

The Washington State Department of Natural Resources (DNR) has been fortunate in the development and operation of its off-road vehicle program. Bert Cole, Washington's progressive Commissioner of Public Lands, recognized long ago the need to both regulate ORV recreation and provide quality facilities for that use. In the mid-sixties, DNR adopted regulations and began working with volunteer groups to construct trailbike trails on state land.

In 1971, the State Legislature passed the "All-Terrain Act," now called the "Off-Road Vehicle Act." To quote from the legislation, "The purpose of this ... act is to increase the availability of trails and areas for off-road vehicles by granting authority to state and local governments to maintain a system of ORV trails and areas and to fund the program to provide for such development." Statewide ORV funds for all agencies total about $1.6 million per year. In 1977, the Legislature expanded the scope of the law to include the federal government, and required the development of a statewide ORV plan "which shall determine and reflect user densities and preferences and suitability and availability of designated ORV trails and areas within the state."

The philosophy of the DNR reflects legislative intent by viewing ORV recreation as simply another way to put state lands to multiple use.

With the preceding comments as introduction, I will get into the subject of today's discussion, which is the development of trailbike trail systems in a forest environment.
I shall use as my example the 70,000-acre Capitol Forest Multiple Use Area. Capitol Forest is one of a number of locations managed by DNR with facilities developed for trailbike recreation.

In the northern half of the forest, facilities have been developed for trailbike use. Non-motorized trails are located throughout most of the southern portion.

Thurston County has developed an intensive use ORV park adjacent to the northern boundary which nicely complements the state facilities. The county park features full-time supervision, a motocross track, hill-climb, concession stand, and a large camping area. The DNR facilities by contrast include an extensive system of trails, primitive campgrounds with 10 to 15 units each, and very little supervision.

Trailbike use of the forest occurs year-round with heaviest concentrations in the late spring, throughout the summer, and early fall. Peak use has been documented at over 1,000 trailbikes per day on certain trails. Normally, use this heavy occurs only once each year.

Organized trailbike clubs work closely with the Department and cooperate well. Over 40 social or competitive events are held each year. We have hosted two national championship enduros, two qualifiers for the International Six Days Trial, and innumerable poker runs, playdays, enduros, and observed trials. Most recreational users come from Southern Puget Sound and the metropolitan areas of Seattle and Tacoma. Historically, trailbike use in the forest has existed for over 15 years.

About 1972, we began using state personnel paid with ORV funds to expand the volunteer-built trails into a comprehensive trail system. It is convenient to think of a trailbike trail system as having three basic components. These are

- an adequate land base.

- developed areas to start and finish the ride, picnic, and camp, i.e., trailheads and campgrounds. If the system is of great length, back-country trail camps should be considered.

- an interconnected network of trail loops of varying lengths and degree of difficulty.

Principal objectives of the loop system should include developing sufficient trail to provide at least one full day's ride without retracing any part of the route. For the average rider, this will require 40 to 80 miles of trail. Length of trail loops should vary from five miles to the maximum distance possible. A 300-mile loop would not be excessive. Parallel trails and alternate routes can provide diversity and may greatly increase the spectrum of potential riding experiences with a relatively small addition of trail mileage. In the initial development of the system, relatively short stretches of trail may be used to connect primitive dirt roads. If roads must be used,

[3] In public presentation, Mr. Wernex's talk is combined with a slide show illustrating the design features, conservation techniques, and construction equipment discussed herein. The photographs used are from the Capitol Forest.
roads impassable to passenger car traffic are best. High standard roads or roads with heavy passenger car traffic are not an acceptable part of the system. As development of the system progresses, trails should replace any portion initially utilizing roads.

Trail design should seek to accomplish three objectives. These are satisfaction of user needs, protection of the resource, and cost effectiveness.

User needs must be understood and appreciated. Trailbike trail esthetics are a difficult concept for the non-participant. One must abandon preconceived ideas, prejudices, and attitudes in order to approach the subject with an open and inquiring mind. Trails should be primitive in appearance; native material and rustic construction is the rule to follow for esthetically pleasing facilities. Overbuilt trails are viewed with GREAT distaste by the off-road rider.

There's a message in all this for the land manager, too. Don't overmanage trailbike routes! There seems to be a consensus among managers of public lands that the establishment of a trail necessarily includes the construction of bridges, smoothing and grading of the trail surfaces, installation of drainage devices like culverts, waterbars, etc., for user comfort, not just erosion control. That kind of development may be money down the drain, because these measures defeat the purpose of a trailbike trail. Riders enjoy the challenge; they want a trail that is difficult and demanding, one that requires skill and a machine specifically designed for difficult terrain. If trail riders wanted a neatly smoothed surface, they would not have left the five percent of America's surface area which is already paved.

So rest easy; the establishment of a motorcycle trail does not mean a major outlay of money and effort. It requires only the clearing of brush to a width of, say, four feet, and the removal of the largest obstacles like big fallen tree trunks and super boulders. Leave the rest. They love it. Scenic vistas, waterfalls, and other natural and cultural features are needed and appreciated by most trailriders. Trails should be routed to include these features. Some trails should be demanding on the machine and rider. A vista is appreciated more if the rider must work hard to get there.

The Department of Natural Resources is developing two classes of trailbike trail—trunk and primitive. Trunk trails accommodate all riders whereas primitive trails often require advanced riding skills. Trail loops should contain alternate routes which allow the rider to select between a
trunk or primitive trail for at least part of the ride. Diversity is an important key to the development of pleasing trails.

Good trail alignment is normally crooked. This lowers speeds and improves safety. Low-speed trails also provide more hours of recreation per mile of development, which reduces costs. And again, the rider likes it because he must maneuver the machine.

Switchbacks are desirable features from the trailbiker's standpoint. If they are improperly constructed, they will be difficult and expensive to maintain. A good switchback has a gentle grade of two percent to six percent and a tight radius of four to six feet. Natural barriers should be provided to prevent cross-cutting.

Environmental problems should be anticipated, identified, and solved in the planning process. Proper trail design will both satisfy user needs and protect the resource. Indeed, one of the principal reasons for developing trailbike facilities is to provide an adequate quantity of designated trails designed to both withstand vehicle use and allow high quality recreation. Mitigation of resource problems can be expensive. Identify the problem areas and try to avoid them. Adequate environmental protection for most areas requires little more than sensible trail construction practices. Soil type is a very important consideration in trail location. In Washington, we prefer to locate trails on well-drained soils with a relatively high proportion of rock aggregate. Glacial till has worked rather well. Poorly drained clay soils are intentionally avoided whenever possible. Resilient soils will accommodate steeper trail grades. Trails on easily damaged soils must have mild grades, special tread protection, or seasonal closures.

Special environmental protection measures include drainage dips, which are effective, inexpensive, and blend with the natural setting, and water bars, which are effective and inexpensive, but less natural and hazardous when placed at 90 degrees to the direction of the trail. When culverts are necessary, a minimum of 12-inch diameter pipe should be used. Smaller ones tend to plug up. They can be difficult to transport to the site, and the bare metal ends can be unsightly. Aluminum culverts are lighter.

Bridges are often necessary. Those made neatly sawn or of synthetic material are offensive to trailbikers. Again, they should be of rustic construction, utilizing native material. While concrete stream crossing planks allow wet crossings in certain small streams, they are difficult to transport, expensive, and do not blend with the natural environment. We are still seeking alternatives here, and additional research is needed.

Ditches can be extremely hazardous and should be placed away from the trail as far as possible. But they may be necessary to intercept water flow above trail and direct into a culvert.

Tread armor of borrow material or crushed rock is expensive, difficult to transport, and should be used intermittently only when absolutely necessary. It is extremely offensive to the trail rider if used extensively. Soil cement, used as trail protection, can be transported into the area by trailbike. However, it can be slippery and hazardous, and its useful life remains undetermined. Sometimes concrete block is necessary on steep erodible
switchbacks, but it is heavy, expensive, and doesn't blend in. It can be slippery when wet, and must never be placed off camber.

Short stretches of very wet soil can be armored with puncheon, which is highly effective and esthetically pleasing as a native material. Cost and life span are variable, and it must not be highly elevated. Similar to puncheon, but without stringers, corduroy is effective when properly used. When made from native material, it is cost effective. Turnpike, back-filled with native material and crowned for good drainage, is effective in elevating tread above wet soil. We are also experimenting with wire mesh as a form of tread armor.

Successful development can depend upon use of a few basic pieces of mechanized equipment. The Morrison trailblazer, developed by the U. S. Forest Service, costs eight to ten thousand dollars. It requires a trained crew of three, but can replace a ten-man hand crew and functions as a backhoe, power winch, grubbing tool, pile driver, and blade. A gravel toter carries a half cubic yard of material and will negotiate trail with a 24-inch tread. Cost is about $2,000. A mobile rock crusher can provide an alternative to long hauls of heavy material.

Establishing and maintaining a good relationship with the trailbike rider is the responsibility of the land manager, and is an area where he cannot afford to fail. Don't hesitate to make the first contact with organized clubs. Gain their confidence by admitting your mistakes and making allowances for theirs. The group must perceive the manager as someone they can trust, someone who likes trailbikes and trailbike riders, a person who will act in their best interests. Don't expect to be immediately accepted. Land closures have led many trailriders to believe that managers cannot be trusted to treat them fairly. You will have to earn their respect; it doesn't automatically come with the job. Negative statements to the media are bitterly resented and will result in a lost of trust. Trailbike clubs have been very cooperative in the past. Along with Jeep clubs, trailbikers have done more volunteer work than any other recreation group I have dealt with. They are a good source of volunteer labor. Clubs are good to cultivate, because individual bikers can be difficult to locate and extra effort must be expended to deal with individuals.

In maintaining your trials, seasonal closure may be necessary, but should be as short as possible and used with great discretion. When ORV-funded trails are closed to vehicle travel, they MUST be closed to ALL recreational travel. You will find that 99 percent of the maintenance problems occur on 2 percent of the trail, so correct minor problems before they get too big.

Implementing an ORV program and developing facilities specifically for trailbike recreation is a relatively new activity for resource managing agencies. If approached with a positive attitude, and the desire to provide high quality outdoor recreation, it is a very worthwhile undertaking resulting in the solution of both social and environmental problems. That, at least, has been the experience of the Washington State Department of Natural Resources.
THE OFF-ROAD VEHICLE AREA AT LAND-BETWEEN-THE-LAKES
by Ray W. Nail

Land-Between-the-Lakes (LBL) is a 170,000-acre national demonstration in outdoor recreation, environmental education, and resource management. The area, located between Kentucky Lake and Lake Barkley in western Kentucky and Tennessee, is being developed and managed by the Tennessee Valley Authority.

Land-Between-the-Lakes opened in 1964, and by 1968 trailbike signs could be found over most of the area. Some staff members recommended that ORVs be banned from the area. Others viewed trailbike riding as a legitimate recreational pursuit. Contacts were made with the American Motorcyclist Association (AMA) and preliminary plans were made to set aside an area for use by ORVs. The original contact and subsequent assistance by staff of the AMA and local trailbike clubs proved to be extremely helpful in development of the area. Due to various obstacles and a less than enthusiastic approach to the situation by some TVA people, the area was not established until 1972. Actually, the issuance of the President's Executive Order (No. 11644) on February 8, 1972, prompted us to renew efforts to designate an ORV area. It was the first area designated for ORVs on federal property.

The 2,350-acre ORV area in LBL opened on July 21, 1972, to provide a place for ORV enthusiasts to concentrate their activities. The site selected was Turkey Bay, the area that had received greatest use by ORV riders in the past. The area is primarily oak-hickory forest with 75 acres of open land and five ponds. The soils are derived mainly from shallow loess over gravel and chert beds. Alluvial deposits of clay, silt, and gravel are found along higher elevations of the hills, and bedrock is of Mississippian origin. Soils are relatively stable.

There are two picnic-camping areas with chemical toilets, picnic tables, and garbage cans, and two parking lot staging areas provided for use by the riders and their families. A study of Dr. Kenneth Chilman of Southern Illinois University showed the ORV users were not an "undesirable type," but rather "normal" people, many of whom came with a family.

The following policies and regulations were established:

- No TVA-sanctioned events.
- Open to all off-road vehicles.
- Nonexclusive use.
- Riding during daylight hours only
- Must have approved spark arrestors.
- Participants may build their own trails.

Some of the early problems were

- difficulty in developing a readable, durable boundary sign.
- minor boundary violations.

Ray W. Nail is a Resource Projects Manager for the Tennessee Valley Authority's Land-Between-the-Lakes in Western Kentucky and Tennessee. Nail received a B.S. in agriculture from Western Kentucky University and completed a Ph.D. in Biology at the University of Louisville in 1965. Prior to his current position with TVA, he was a staff biologist, instrumental in creating the Turkey Bay ORV Area; then a supervisor in the Forestry and Wildlife Management Section.
• riders using unloading ramps for jumps.

Accidents have never been a major problem. A study by Dr. Chilman in 1975-76 showed the ratio of injuries to ORV riders at Turkey Bay to be 1 to 186. Many times we don't even hear about them. This particular group of recreationists appears to accept this as part of the price for participation. The worst accident we know of was a broken back (non-paralyzing).

The area attracts around 300 riders on a good weekend in the spring or fall. The weekly average throughout the year is 70 to 80 users.

Trails in the ORV area have been surveyed and mapped three times (1973, 1975, 1977) as a part of the environmental monitoring system. The total acreage actually receiving wheel-to-ground impact has increased from 13.6 acres in 1973 to 49.1 acres in 1977. The percentage of the total area actually receiving direct ORV impact has increased from 0.58 percent in 1973 to 2.09 percent in 1977. There are still large blocks of land in the area that are not being ridden over by ORVs.

Twenty trail sections, each 25 feet long, distributed throughout the area, were established as monitoring sites. Twenty control sections were designated nearby. The study sites, which are unknown to the riders, yield information on impact on woody vegetation, changes in trail width, and erosion. Impact on vegetation actually growing on the trail is heavy; but so far, plants that are not actually being ridden over do not show significant damage. Large trees beside the trail show no significant deterioration. Erosion has increased during the period from 1973 to 1977, particularly on sites with slopes of 15 percent or greater. Corrective maintenance (reshaping, sloping for drainage, water bars) has been required on some of these sites. Potholing is common in the low, flat areas; however, there is no substantial distant movement of soil under these lowland conditions. There is some root damage to trees at creek crossings. Average trail width has increased approximately 31 percent since 1973. Pictures, for comparative purposes, are made of each trail section each time the survey is conducted.

In addition to the trail sections, 16 photopoints were established. These were located at sites thought to be sensitive to damage (pond banks, creek crossings, steep slopes). Color slides and photos are made during each survey period to document changes. Again, sites with slopes of 15 percent or more show significant erosion damage. Pond banks and most other sites either have not been used by the riders or show no significant change.

The original monitoring plan included a comparison of snow track counts between the ORV area and nearby areas. Through December 1977 there were no snows suitable for making track counts. Two turkey gobbler censusing stations are located in the area. No gobblers were heard at either of the stations from 1972 through 1977. In fact, there has not been a gobbler reported at the stations since they were established in 1967, nor has there been a turkey brood recorded in the area since LBL was established. Adult turkeys have been seen in the ORV area on a few occasions since 1972.

Harvest data provides some of the best information we have available on impact on wildlife. Harvest of deer in the area since its establishment compares quite favorably with nearby similar areas of comparable size. For example, 11
bucks were taken in the ORV area during the 1972 season; 16 and 18 deer were taken in 1974 and 1975 respectively.

Forty-eight species of birds, including turkey vultures, red-tailed hawks, bald eagles, various woodpeckers, and other small birds, have been observed in the area since its establishment. Numerous mammals inhabit the area.

About all we can say from the various wildlife observations is that there is some significance to the fact that these species still inhabit or venture into the area. Any other conclusions would be premature at this time. Just because an animal inhabits an area doesn't mean it is reproducing and doing well. On the other hand, because it is scared by an ORV doesn't necessarily mean it is detrimentally affected, other than the use of sufficient energy needed to get out of the way. Without a doubt, wildlife monitoring is the weakest link in the system. In my opinion, regardless of what you may read or hear, there has not been sufficient research conducted to shed much light on the impact on wildlife. Obviously, at some point in time, with increasing use of an area the wildlife will begin to be affected, some species quicker than others.

The ideal monitoring plan would be more scientific with more detailed censuses and surveys. Nevertheless, the monitoring system currently in use at LBL provides a great deal of insight into the impact of ORV use on the area and a good basis for making management decisions, particularly as related to maintenance needs. Perhaps the major element in the whole matter of environmental impact of ORVs is the amount of use. Various other things such as type of soil are very important, but whether an area gets sparse use or is literally overrun by users is a very important consideration when trying to compare impact among different areas. What is high use in LBL may be low or moderate use in California or some other area.

Overall, I feel the establishment of an ORV area in LBL was a step in the right direction. Although there are still some minor boundary violations, indiscriminate riding throughout the area is no longer a problem. Until a few years ago, the area was used primarily by trailbike riders. The relatively recent influx of four-wheel drive vehicles is causing us some concern. They appear to be potentially far more damaging to the environment. I anticipate the necessity for some changes in the monitoring system soon, partly due to the increased use by four-wheel drive vehicles.

THE CHADWICK STORY
by William L. Kickbusch

The Chadwick motorcycle area is located in southeastern Missouri, approximately 25 miles southeast of Springfield, in the Mark Twain National Forest.

Use of the Chadwick area by motorcycle riders began in the late 1950s, consisting mainly of a few local people getting together and riding through the woods on old logging
roads and fire trails. It was totally unregulated and for the most part unnoticed.

With the upsurge of motorcycle riding as a recreational activity and the increased numbers of foreign-made bikes finding their way into the American markets during the 1960s, use in the Chadwick area increased. By the late 1960s, it became apparent that unrestricted use could no longer be tolerated. At that time, use included hill climbing, steep trails, challenge areas, amounting to a general overuse of the area.

Several attempts were made during this period to restrict use in the area, but none was very successful. There was no "Off-Road Vehicle" policy on the forest and no federal regulations to assist the administrators. Twenty-five miles of trails were designated as motorcycle trails, and hill climbs were closed and rehabilitated on several occasions. A day use area was constructed, but no facilities were provided for overnight use. Over a hundred miles of trail developed through unrestricted use of the area.

During the summer of 1971 the first of many meetings was held by the Forest Service, attempting to find out how the public felt about motorcycle use on national forest land. All sides were heard from at these early meetings. On February 9, 1972, President Nixon issued Executive Order 11644 which stated, "It is the purpose of this order to establish policies and provide for procedures that will ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various users of those lands." This Executive Order and the Department of Agriculture regulations that followed required another round of public meetings, workshops, and listening sessions.

By 1975, the forest management felt there had been sufficient public involvement to make a concentrated effort to gain control of the area. An area of approximately 7,000 acres was designated as the Chadwick Motorcycle Area. Several meetings were held with the user groups, getting their input into the planning as well as their commitment to the rules and regulations that were to be established. The Chadwick Motorcycle Area was closed to off-trail vehicle use with the exception of a 5-acre area known as the "Trail Ride Area," and a 2-acre area known as the "Sawdust Pile." Seventy-five miles of trail were designated for use within the area.

At the same time, construction was started on two camping areas. These campgrounds are very basic in nature. They include toilet facilities, tables, and fire rings. There are no water or garbage facilities. It is planned that water will be provided as soon as funds are available, but the "challenge camping" (take home everything you come with) concept is used and has been very successful.

In 1976, there were as many as 600 visitors at one time and 5,500 visitor days for the season. Use has continued to grow each season. Riders come from as far away as New Jersey and New York. The majority of the users come for a weekend, but it is not uncommon to find users who have driven four hours one way to spend two hours riding the trails and then load up their bikes and drive four hours back home. It is a popular spot for motorcycle trail riding.
The Chadwick Story cannot be told without some mention of the lessons learned. Some of the more important lessons were:

- Lay out and construct sufficient trails in the area to afford the users opportunities to ride without being in a crowd all the time.

- The setting is important. In the case of Chadwick, it is a forest setting in the beautiful rolling Ozark mountains.

- Design of the trails and the facilities should accommodate the user as much as possible. Horseback riders need facilities to accommodate their horses; likewise, motorcycle riders need facilities to accommodate their machines.

- Use the natural terrain as much as possible to accomplish the objective of the trail. Challenge is important to the motorcycle rider, but use discretion.

- Post all regulations, federal, state, and local, so the user is aware of them. These should be posted where everyone will see them.

- Distinguishable trail markers are important, but can be easily overdone.

- User input is a MUST in the planning and administration of an area.

- Maintenance is important. There is no denying that motorcycle use has an impact on an area. However, timely and proper maintenance helps to minimize this impact.

- Proper location of the trails is important. Soil suitability is a high priority consideration in the location of any trail.

- Administration of the area is important. In most cases, people will cooperate with the administering agency if they know what they should do. A good deal of the success at Chadwick can be given to one man who is interested, knowledgeable, understanding, and available to talk with the users.

Motorcycle riding is a growing outdoor recreational use. Like any type of use, it has an impact on the natural environment. How the use is planned for, laid upon the land, and administered will spell the success or failure of a motorcycle area, just like it does for almost any endeavor.

**MICHIGAN'S ORV TRAILS PROGRAM**
*by Robert M. Tyler*

The Michigan Department of Natural Resources officially became involved with recreational off-road vehicles in 1968, when the decision was made to close the state game areas to ORV use. This action seemed drastic to some ORV users and precipitated the formation of the Cycle Conservation Club of Michigan.

This club focused its efforts on legislation and on a trail development program. Because of their efforts and cooperation with the Department of Natural Resources and the Huron-Manistee National Forest, Michigan had a 750-mile designated motorcycle trail by 1973. During this time, rules for ORV use were
also receiving much attention by the DNR and the CCC. Although three years were involved, these two groups managed to hammer out Michigan's ORV law. This Act 319, of 1975, provides for registration, regulation, and facility development for off-road recreational vehicles.

Highlights of the Act include

- ORVs must be registered except when used on one's own land, or in a special event, or a safety and training program.
- Revenues will be appropriated to the Department of State and Natural Resources for administration of the Act.
- The Department of Natural Resources will carry out a safety education and training program for youthful operators (ages 12 to 16) and also determine nonhighway gas consumption by ORVs.
- The Department of Natural Resources will develop a comprehensive plan for management of ORV use on lands under the jurisdiction of the Department.

As of now, Michigan's public lands support a number of ORV facilities. These include the 750-mile Michigan Cross-Country Cycle Trail, the 1250-acre St. Helen Motorsport Area, the 250-acre Silver Lake State Park (a dune buggy area on Lake Michigan), and a 50-acre hill climb area in the Brighten Recreation Area.

Michigan's public lands host quite a number of ORV activities. These included trail tours, poker runs, enduros, rallies, and trials. On state and national forest lands these events are held under permit. This year 22 events were held on state forest lands. Although each of these events involve some 600 people, the bulk of our ORV activity results from the weekend trail rider. The Department estimates that some 250,000 ORVs fall under Act 319, of which some 200,000 are trailbikes.

Michigan has experienced problems from ORV use. These include noise, indiscriminate trail development (primarily hill climbing), and conflict with other forest users.

In dealing with these problems, the Department is faced with additional problems:

- The bulk of the population lies in the southern third of the state; in fact, 35 percent of the ORV users reside in the Detroit metropolitan area, yet the public lands lie in the northern two-thirds of the state.
- Funds with which to develop an ORV program have not been selling well. After two and a
half years, registrations represent only 20 percent of the projected estimate. Consequently, budget appropriations have reflected a shortfall.

Despite this funding problem, the Department has developed an ORV recreation plan. This plan proposes the development of new facilities and rules. These facilities will be provided within six program objectives as follows:

1. Protect natural resources and ecosystems.
2. Separate conflicting uses.
3. Promote user safety.
4. Within the above constraints, provide optimum opportunity for recreation on state-owned lands by off-road vehicle users.
5. Encourage and assist to the extent possible local government unit and private sector ORV facility development.
6. Continue reevaluation of ORV needs, programs, and planning on a systematic basis.

Goals for facility development are set for the following time periods.

1982—1,500 miles of trails and routes, plus 8,000 acres of use areas.
1987—2,000 miles of trails and routes, plus 11,000 acres of use areas.
1992—2,700 miles of trails and routes, plus 13,000 acres of use areas.

Through Michigan's ORV Law, a 750-mile designated motorcycle trail has been developed.

Trails are defined as a designated one-track way, capable of travel by a two- or three-wheeled vehicle, less than 40 inches in width. A route is defined as a designated way for vehicles greater than 40 inches in width; e.g., forest roads of county roads opened by the county to ORV use. Use areas are defined as those designated for ORV random cross-country travel.

These facilities are in addition to the existing trails and areas listed earlier, and the more than 10,000 miles of existing forest roads. Rules proposed in the plan are similar to those already in force in Michigan on the Huron-Manistee National Forest. These rules restrict ORV use to forest roads, designated trails, and designated areas. Present state land use rules allow vehicles on all existing trails unless they are posted closed.

During the course of planning many user groups have expressed interest in
assisting in trail development. To take advantage of this, the Department met with these groups to discuss the possibility of contracting trail development. Subsequent meetings led to contract formulation, implementation procedures, trail locations, and costs. The result has been a contract with the Cycle Conservation Club of Michigan for 340 miles of off-road motorcycle trail by July 31, 1979, at a cost of $50 per mile.

Despite all the problems associated with this 10-year-old ORV program the Michigan DNR is becoming more optimistic and positive in its efforts.

Our ORV plan recognizes the legitimacy of this form of outdoor recreation and proposes substantial facility development. The Department also administers in excess of 20 organized ORV events each year which involve nearly 20,000 user days. And for the first time, motorcycle trail development has been contracted with an organized user group.

ARIZONA: A FOUR-SEASON ORV STATE
by Mary Alice Bivens

Along with southern California and New Mexico, Arizona offers an endless variety of outdoor recreational experiences. If you really wanted to, you could ride a motorcycle or drive a four-wheel vehicle—off the highway—someplace in the state 365 days a year. While it is snowing in the mountains, the sun is shining on the desert. When it is beastly hot on the desert, it is fantastic in the mountains. If you don't like the weather in Phoenix, go north to Sedona or Fredonia or south to Sierra Vista. If it's freezing in Payson or Flagstaff, warm up in Yuma or Douglas. We truly are a four-season ORV state.

Though snowmobiling does take place in the high country of the state, the overwhelming "off-highway" motorized vehicle use is some form of four-wheel-drive vehicle or motorcycle.

In a recent participation survey conducted as part of our comprehensive outdoor recreation planning update, we asked people to give us their thoughts regarding some urban alternative forms of recreation. Specifically, we asked them to consider eight outdoor recreation activities which are generally found in rural or "back-country" areas of the state. We asked them to tell us if they believed a need exists for these activities to be accommodated in urban areas; if such facilities were available, would they use them? Then we figured in percentages of those who perceived the need that would use the facilities themselves.

Of all interviewed, 43 percent believed there is a need for motorbike tracks to be developed in urban areas; 44 percent of those people indicated they would
use the facility if it existed. Of the possibility of developing tracks for four-wheeling, 35 percent believed there is a need and 50 percent of these people said they would use them if they existed.

Maybe we've taken for granted that all the off-highway vehicle uses should be in "back country" areas and haven't realized the need to provide space for a safe experience within urban areas as well. Our survey also revealed that 8 percent of all the households in Arizona participate in four-wheeling and 5 percent in trailbiking. This may not seem significant in comparison to all other outdoor recreational activities, but it does represent 130,199 households.

In our SCORP update Needs Assessment Workshops, we heard over and over the need for providing resources for trailbike and four-wheeling uses. Though many of the workshop participants were not users and indicated their major complaint was the noise they create, they agreed that the bikers and the four-wheelers are acceptable outdoor recreation activities and overwhelmingly expressed a need for providing for their use.

It seems to me that things are changing. When I was 15 and 16 the car was the thing—our key to freedom and independence. Now the car is taken for granted and, coupled with the rising cost of gasoline, our kids are turning to the "bike" for their freedom. Dad also finds it a great way to do things with his son, and soon the whole family is involved.

Arizona has 72,900,000 plus acres of land. Of that, 32,000,000 plus acres or 45 percent is federally owned and managed. The Indian Reservations total over 22,500,000 acres or 30 percent. We have 9,600,000 plus acres in State Trust Lands, which is approximately 13 percent of the state's land. Of the remaining acres, just under 7,000,000 acres or less than 10 percent is in county or private ownership which is in community or private or agricultural or industrial development.

This means several things:

• There is a lot of wide open country.
• Federal and state lands are generally considered public lands.
• Management responsibilities are horrendous.
• User conflicts abound.
• A critical need for coordinated planning efforts exists.

Now, let's look at our climate for a moment. We have three basic climatic zones: desert, steppe, and highlands. Our temperatures vary from sub-freezing in the mountains in the winter to well over 100 degrees in the deserts in the summer. Interestingly enough, Arizona has many times recorded both the warmest and the coldest temperatures on the same day. Our records are plus 127 degrees and minus 40 degrees. Arizona also ranges in elevation from near sea level to over 12,000 feet. We enjoy an almost endless variety of topography, flora, and fauna, as well as climate. Our limitless natural beauty and natural resources truly make Arizona a 365-day outdoor recreation state.
Participants in the Arizona Trailbike Workshop get a feel for riding in the four-season ORV state.

What does this mean to off-highway vehicular uses? Let me try to simplify an answer.

- You can be outdoors, riding a motorcycle or trailbike or four-wheel-drive vehicle virtually any day you wish.
- The vast amounts of "open space" provide an endless challenge for riding.
- Continued interest and indiscriminate use has caused great concern to the land managing agencies.

- The time to do something is NOW.

Don't get me wrong. We are doing "something."

- The National Park Service has "closed" their 3,428,961 acres in Arizona to vehicular travel except on main paved and designated public roads.
- The U. S. Fish and Wildlife Service has said "me too" for the 877,200 acres of wildlife refuges they administer.
- The Bureau of Land Management is "studying" (for the third time) off-road vehicle use for policy development on the 12,596,058 acres they administer.
- The U. S. Forest Service has completed (December 1976) the environmental analysis of the Off-Road Vehicle Management Plan for the 11,271,618 acres of forest lands in Arizona.
- The Arizona State Land Department says that use of 9,615,075 acres of State Trust Lands by individuals other than the lessees is prohibited—except by special permit.
- The Game and Fish Department and the State Parks Board have prohibited off-highway vehicular use on all the lands they administer.
- State Parks has 136 designated and identified trailheads serving approximately 447 miles of open space trails for horseback riding and hiking/backpacking. The Forest Service alone has identified 3,603 miles of trails of which 2,595 miles are recommended to remain open for recreational use.
- County and local governments have developed—some successfully and others not—or planned for motocross tracts within their jurisdictions. Bicycle and equestrian paths and trails abound in the metropolitan areas.

Yes, we're doing something. But it's not enough. The requests to the Bureau of Land Management for organized events to occur on BLM land have gone out of sight. They can't possibly accommodate all the requests they've received and...
will soon begin requiring certain assurances by the participating groups, such as liability bonds, and conditional use permits before considering a request for such an event.

We are only reacting. The time to develop a method of coordination and cooperation among all agencies is NOW. We can't afford to put off putting our heads together. There is too much at stake. The environmental tradeoffs are getting increasingly more costly, and the sociological impacts too tremendous to be forgotten. Land planners and managers can't do anything alone. Environmentalists can't agree on viable alternatives. Politicians seldom agree on effective enforcement policies and the recreationists can't understand what all the fuss is about.

The endless variety and wonder of Arizona and the potential and opportunities for ORV use during all seasons is fantastic. Our success will depend upon whether we can

- get all of the managing agencies together.
- coordinate agency policies and management plans.
- minimize and interrelate regulations.
- designate areas and trails for ORV use.
- ensure that positive approaches are taken rather than only closures.

I definitely believe off-highway vehicles are legitimate forms of outdoor recreation and I'm certain we're smart enough to develop policies and resources to accommodate their uses without sacrificing the precious gift God gave us—our land.

AN EXPLANATION OF WISCONSIN'S MOTORCYCLE RECREATION PROGRAM
by Larry Friedig

The current Wisconsin Motorcycle Recreation Program is a grant-in-aid program administered by the Department of Natural Resources. It offers funds in various percentages for the acquisition, development, operation, and maintenance of public off-highway motorcycle trails, intensive use areas, and associated support facilities. These grants are available to local units of government—towns, villages, cities, and counties.

Larry Friedig is State Coordinator for the Wisconsin Motorcycle Recreation Program, one of the Nation's pioneer efforts in developing special funding and planning on the state level for off-road motorcycle riding facilities. He holds a B.S. from the University of Wisconsin at Madison and conducted graduate study in recreation resource management.

The MRP, as a grant program, is the rebirth of the former Motorcycle Outdoor Recreation Program (MORP). MORP was established in 1970 by the Wisconsin Legislature for the purpose of acquiring lands of sufficient size and
geographic distribution to provide for quality off-highway recreational riding opportunities. The program was administered by the Department of Natural Resources with the assistance of an advisory council. This council was composed of seven members-at-large selected for their knowledge of motorcycling. Funding for MORP came from a $2.00 increase in the annual $5.00 motorcycle license fee.

At the outset of the program in the early seventies, the lack of support of the former governor became quite evident. His refusal to approve the first acquisition because of some local opposition generated at the public hearing became a harbinger of the future. While the advisory council and a staff member of DNR continued to search for suitable sites, the agency would always choose not to create a situation by pursuing an acquisition where local opposition was registered. This pattern continued for roughly seven and one-half years.

In an effort to give the program a new breath of life, the Legislature changed MORP into a local grant-in-aid program in late 1977. Beyond saving the program and the roughly $1.5 million that had accumulated in the fund, the shift in format did provide some very positive benefits. First it provided a means for distributing money to units of government other than the state for motorcycle development. Under the former format there was no way for an interested local unit of government to take advantage of the funds. It also redirected attention at satisfying local needs in a manner consistent with the local unit jurisdiction instead of satisfying state needs. Finally the change also permitted an individual in the state agency to devote his full time to working with local units and rider groups to achieve success.

As I mentioned before, cost sharing percentages vary. For the acquisition of land and the associated costs involved in purchasing, the cost sharing level is up 100 percent. Acquisition may be by outright purchase, lease, or easement. Development costs are shared up to 75 percent. These costs include necessary engineering and design services as well as the on-site ground improvements. In addition, advance payment of 75 percent of the approved cost sharing amount can be made available to the sponsor on request.

Cost sharing of up to 50 percent may be received for operation and maintenance costs. In addition, cost sharing is available up to 100 percent for maintenance of trails which are used jointly for motorcycling and other outdoor recreational purposes. A cap of 10 percent of the annual motorcycle license revenue received is placed on the fundable operation and maintenance costs for any one facility.

An approved comprehensive outdoor recreation plan is not required, but a project application must include a statement on the need and expected use of the area, a description of private and public motorcycle facilities within a 25-mile radius of the proposed site, and a proposed schedule of operation and maintenance. Facilities acquired, developed, or maintained with assistance from MRP must be open to the public. However, local unit sponsors are not prevented from charging reasonable user fees.

As a grant program, MRP has shifted the focus of program implementation from the state agency to the sponsoring local unit and ultimately to the local rider and rider groups. While I as the MRP coordinator serve as a catalyst
for the program, it really comes down to local groups working with local governments to achieve success. To assist in this process we have relied on some of the resources mentioned earlier today. The Wisconsin Motorcycle Dealers Association, the American Motorcyclist Association, and the Motorcycle Industry Council have been active in establishing and supplying logistical support to core action groups in selected areas of the state. The groups have been formed to provide a nucleus of support around which to rally rider interest. To support their efforts, a program of mailings to new off-road purchasers and unaffiliated users has been established. The goal is to provide the land manager with an active, unified block of support for the program. It is these groups, whether established formally or not, that must make their needs known to you as the administrator, planner or manager, and work within the governmental framework to achieve success.

As I travel to different counties and communities to discuss the program, I list these distinct benefits of the program. First, the program is designed to help satisfy a legitimate recreational need. Off-highway motorcycling, whether on a track or trail, is a satisfying recreational experience. Second, public off-highway motorcycle facilities serve as a constructive alternative to prohibition and citation for law enforcement agencies. For the user, this also means he or she can enjoy the activity safely and legally. Finally, these types of facilities offer opportunities for rider education and the learning of operator skills.

Those of us involved in the Wisconsin Motorcycle Recreation Program believe in it and are trying to make our needs known.

OFF-HIGHWAY VEHICLE EFFORTS AND IMPLEMENTATION IN UTAH
by Tharold E. Green

We have seen the off-highway vehicle concern in the United States expressed in terms of executive orders, statutory limitation, new entries to the Code of Federal Regulations, and litigation requiring a RARE II process as a result of an unsuccessful RARE I process.

As a professional planner, I have been involved in resource and community planning, as well as statewide planning for over nine years. Our concern for off-highway or off-road vehicles must be viewed in terms of resource totality. By this I mean that our concern and interest in off-highway vehicles and their use to fulfill leisure needs must be approached from a comprehensive point of view. With the dynamic growth of population, particularly in urban areas such as the Denver Front and the Wasatch Front, we are experiencing a higher frequency of conflict or competition for resources, particularly attractive resources.

While it is critical to have interest groups that represent varying points of view, such as the off-highway vehicle user, the off-highway vehicle

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industry, the non-user, or special interests, the land manager must cope with the entire system of needs that exists for a given resource. How do we communicate this fact to industry and particularly the users of off-highway vehicles, who receive the brunt of often-misinformed criticism.

As government employees and, particularly, as comprehensive outdoor recreation planners, we are in the position of having to represent a balanced, supposedly informed, point of view. We must advocate both sides, or all sides, of an issue. Therefore, we must go through the process of becoming informed and objective and knowledgeable—the same process that we hope will take place in other areas of the political arena with the so-called environmentalist, with the uninformed, with the motorized vehicle user, and with the decisionmakers. The planner is required to be balanced and objective. He must keep himself from becoming too politically vulnerable. But our concern here is to make reasonable people among those who are environmentally concerned, those who must rationally plan for the resources, those who are politicians and must make decisions, and those in the ORV industry who must carry some responsibility for technical, as well as appropriate and inappropriate marketing and advertising.

As we perhaps too quickly do, the environmentalist has resorted to extreme political efforts as expressed by litigation or legal intimidation to stop off-highway vehicle use. Too often we resort to extreme remedies. Obviously, there are times when we have to. And, certainly there are enough laws and statutes and articulated policies that get in the way of rational planning and implementation as it is.

A good example can be found along the Wasatch Front near Salt Lake City. A very popular trailbike area was recently closed by the Wasatch National Forest. Those who had been historically involved with the trail realized that the physical condition of the trail had actually improved rather than degenerated, and yet the trail and its location left much to be desired. Rather than work out relocation of the trail, temporary closure, or some process of negotiation and planning, an emotional reaction took place in terms of a local governmental ordinance banning off-highway use along the Salt Lake City watershed. This, of course, made it much easier for the Forest Service to close the trail. I understand that the Forest Service may be sued to show cause for closing the trail. In my opinion, this would have been an excellent opportunity to explore alternative means of solving a significant problem with motorized recreation. The move was probably politically popular. A good portion of the community, especially the power structure, lives in the foothills along the Wasatch Front, and forced action to prevent off-highway vehicle use in the watershed. But nothing has really been solved.

Here was an opportunity to meet with users. Here was an opportunity to suggest organization to motorized vehicle users. Here was an opportunity to suggest and introduce trail construction and alignment alternatives being used in Idaho and the State of Washington. Here was an opportunity to educate all off-highway vehicle users to a problem that they may not have been aware of. What I am suggesting is that quick, reactionary response is not solving our off-highway vehicle problems and is certainly not meeting our off-highway vehicle recreational needs.

The State of Utah in the last four years has spent in excess of $50,000 to
develop two major inventories and user-generated studies to address some of the problems that we see around us. These studies finally brought into the planning process those most affected by it: i.e., the users, land managers, and comprehensive planners. These studies identified major use areas. They identified environmental and activity problems. The interesting point was that, while the users were in most cases untrained observers of environmental problems in use areas, they did articulate and document their perception of what the problems were. Undoubtedly, there are many environmental variables that could not be picked up by the untrained observers, but the process did determine the degree of education and perception the users had; the areas where they were most weak; and a surprising sensitivity to the environment. The fact that they were finally brought into a political planning process, leaving them with the feeling that they were having some impact on decisions affecting them, was well worth the price of the studies. These studies have established important communication relationships between the state and user groups. They established some degree of trust, although we were accused of being part of a conspiracy to take away opportunities for off-highway vehicle use.

Let me list for just a moment a few things that have occurred since our studies were published in 1977. It is difficult to assess the direct effect of our research efforts. I can't assume that we caused the following to take place. However, we have had an opportunity to influence and participate in some of the developments that have taken place.

On Labor Day of 1978 the Lark Sand Dunes ORV Area was opened in southwest Salt Lake County. It covers approximately 413 acres. Several of the users contacted during the study participated in setting up this area and clearing it of dangerous debris. It is being leased by Kennecott Copper Corporation for $415.00 per year.

In our study we bragged about the Brigham City ORV area. Since that time, there have been a number of administrative problems with it. The State Division of Parks and Recreation, which administers our ORV Law, recently took over the lease at the 100-acre site for $1,000 a year. Again, Parks and Recreation is utilizing clubs and ORV interest groups to maintain and help administer the area. Park rangers will be enforcing restrictions on the site.

In cooperation with the Bureau of Land Management, the Division of Parks and Recreation has established a 40-acre ORV area at Yuba Reservoir in central Utah.

The Division of Parks and Recreation has renegotiated a 34-acre motocross area 11 miles west of Salt Lake City.

Another cooperative agreement has been consummated with the Bureau of Land Management at Steinaker Reservoir in eastern Utah to develop the "Sand Pocket Trail," a challenging and scenic 13-mile loop trail.

The Division of Parks and Recreation has formalized a 200-acre Great Salt Lake Beach ORV area on the shores of the Great Salt Lake. This area recently hosted the national sand drags. The Division of Parks and Recreation has recently established a small ORV area on White Rock Bay in the middle of the Great Salt Lake on Antelope Island State Park.
The Division of Parks and Recreation has formalized a staging area at Goblin Valley State Park, which serves ORV enthusiasts on BLM land. The Bureau of Land Management may assume responsibility for developing a transcontinental railroad ORV corridor on the old Southern Pacific Railroad alignment in northern Utah.

The Utah Outdoor Recreation Agency hosted an ORV activity for city and county leaders in Salt Lake County last year. As a result of that, Salt Lake City is proceeding with a 12-acre motocross area adjacent to Salt Lake City and behind their new city parks headquarters. Meetings in implementation of that facility are being held between the Salt Lake City Parks Department and the Division of Parks and Recreation.

The 1978 Legislature transformed a portion of the Provo-Jordan River Parkway into an urban state park. The Outdoor Recreation Agency and the Parkway Authority are helping the Division of Parks and Recreation to establish and design an ORV area (motocross or trials) on some property toward the north end of the parkway. We have located some support from the Westside Community Council, a citizens group which is desirous of having a well-managed area on which children and teenagers can ride.

This sounds as though the State of Utah has been doing a lot. But, the users realize that a considerable amount still needs to be done, particularly in terms of coordination with federal agencies and encouraging local government to develop ORV areas that are well-designed and carefully monitored in their respective communities. This goes far beyond the sophomoric reaction in Salt Lake County this last year where the watershed was slammed shut.

One problem that continues to persist is inadequate funding for the Division of Parks and Recreation in its ORV program. The Division reports that their budget is not increasing proportionately with the frequency of problems and demands. New Land and Water Conservation Fund projects are not reflecting response to the needs that have been promulgated. With the exception of a couple of state parks projects and the next year's proposal by Salt Lake City, there are no local motocross or trail proposals for off-highway vehicles.

On the bright side, the state has established excellent rapport with the trail riders and the motorcycle industry. These have provided outstanding support for field seminars and localized riding workshops. The industry is clearly attempting to go beyond selling machines by working for the user, attempting to educate the user, and presenting a reasonable image favoring environmental concerns in this country.

In closing, I again wish to express that we must remember that the use of motorized vehicles, off-road and on-road, must be thought of and addressed in terms of total social, economic, environmental, and leisure systems. Provisions for off-road activity must be carefully coordinated with other resource uses by knowledgeable users, planners, and land managers.
FACILITY DEVELOPMENT IN LOS ANGELES COUNTY
by Richard Mayer

Since the mid-to-late 1960s, the County of Los Angeles Department of Parks and Recreation has recognized the need to provide facilities for off-highway vehicles, particularly motorcycles. The county's main problem in providing off-highway vehicle sites has largely been that of identifying sites which are not objectionable either to the surrounding area or from an environmental point of view.

As this conference is oriented toward off-highway motorcycle activities, I will limit my comments pretty much to that subject. We believe there are basically four types of motorcycle users: the minibike rider, the off-road or trailrider, the street bike rider, and the competition rider. The last two require specific types of areas and are generally not our concern, as they can be accommodated by either public roadways or private raceways, respectively. In either case, they have special needs which are generally met by existing facilities.

Trailbikers are dependent upon lots of land and a diversity of experience. The minibiker is usually young, a beginner, and, many times, unlicensed. Give him a 20-acre site with easy obstacles for gaining trail experience and learning the basic fundamentals of motorcycle riding, and he is easily satisfied. Because we believe the needs of the minibikers, who generally cannot ride the streets, and the trailbikers are not being met by public or private agencies, the Los Angeles County Department of Parks and Recreation has chosen to concentrate its efforts toward providing facilities to meet the needs of the minibike and trailbike users. Unfortunately, to date, our success has been somewhat less than astounding.

We have been essentially working on two proposals for motorcycle areas, one site at the Whittier Narrows Recreation Area and the other site, known as Rowher Flats, in an area currently receiving motorcycle use in the Angeles National Forest.

The Whittier Narrows minibike park was a proposed 12-acre site, which, in addition to parking lot and trail improvements, would have picnic facilities and a first-aid station as a part of the overall facility. This facility was to have been our pilot project, with which we hoped to prove that minibikers would not create a public or environmental nuisance, and which would also provide the catalyst needed for further development of similar areas throughout the country. The facility was also to complement the recreational improvements at the Whittier Narrows Recreation Area, which is a 1,100-acre facility featuring fishing, picnicking, children's play areas, overnight group camping, hiking and equestrian trails, ball diamonds, archery, skeet and trap, model hobby areas, and a nature center and nature study area. The entire park is located on U. S. Army Corps of

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engineers property which is licensed to the county for recreational development, operation, and maintenance.

the proposed minibike park site was to be located in an area adjacent to the whittier narrows dam, which acted as a sound barrier for residential developments to the southwest of the site. the area is subject to inundation and has been disturbed so that most plant materials and other resources, such as archeological resources, would not be significantly affected by the minibike park. the corps of engineers agreed with the development of the minibike park, and we were successful in obtaining an off-highway vehicle grant in the amount of $58,322 from the state department of parks and recreation to assist in the development of the area.

when it came time for the actual development of the site, the city wherein the site was actually located required the county to obtain a conditional use permit and provide extensive sound tests to ensure that the facility would not disturb the nearby residents. the sound tests were negative, but the city would not grant the county a conditional use permit because of public concerns over the project, principally related to noise and dust, both of which could have been adequately mitigated. as a result, it appears we have lost this project as the politics involved with the city and county have indicated the project cannot continue.

our second project, rowher flats motorcycle area, is faring slightly better. this project consists of the development of a 600-acre area which is currently receiving extensive trailbike usage. we are developing this project in conjunction with the u.s. forest service, as it is on national forest land, with the assistance of a grant from the off-highway vehicle grant program and green sticker fund. the amount of grant funds available is $531,975.

proposed improvements at the 600-acre site will include a three-phase development including picnic areas, beginning to advanced motorcycle courses, access improvement to the park, parking areas, sanitary facilities, and ultimately campground areas. development of this area will also provide for easy access by motorcyclists to trails within that portion of the angeles forest.

so far we have been able to overcome most of the objections from residents in the nearby community of sleepy valley. their main concerns centered around the increase in motorcyclist-oriented traffic, dust, and noise. sound tests have indicated that motorcycle noise in the area should not present a problem to the residents. dust can be handled through a watering program. the increase in traffic can be mitigated by the location of the area chosen as an entrance to the site and is not expected to increase significantly over what is already there. we believe that with additional public input into the planning processes for the development of the area, we can garner public support for the project. a problem has developed, however, in that it appears the area of the site may have archeological significance. we had an archeologist who gave the site a "clean bill of health." while out walking the area, however, members of our staff discovered several artifacts which are making us take a closer look at the site. consequently, because of the site's possible significance, we are having another study performed to determine the extent of the site's archeological value.

although we have had little success in implementing off-road vehicle parks to
date, we are still cognizant of the need for such facilities and are con-
tinually evaluating potential sites. This time our evaluations are a bit more
thorough as we are attempting to learn from our past efforts on the above two
projects. At this time we are evaluating areas which have uses that are
environmentally or physically compatible with off-road vehicle use. These may
include certain areas of the Angeles National Forest, flood control areas,
excess freeway rights-of-way and other governmentally owned properties. Addi-
tionally, we spearheaded an effort to encourage the state to acquire and
develop the Hungry Valley off-road vehicle park in the Gorman area. This
special effort included special legislation, interagency meetings, and our
Board's support of the project by resolution.

In our evaluation of these areas, we are looking at several items in determin-
ing an acceptable site, some of which are based on our experiences in the two
projects previously mentioned:

• Determine type of support for a project in a certain area (e.g., political,
public).

• The site should be isolated from residential areas as much as possible,
preferably in an industrial or manufacturing zone. Another possibility is
within the Forest Service properties open to such usage.

• The site should have varied terrain.

• The site should have easy access through main roads, not through residential
areas.

• If possible, it should be located near utilities.

• A thorough investigation of the site's resources should be accomplished
prior to selection.

• For a motorcycle park, the acreage should be large (over 1,000 acres, if
possible). Unless extensively developed, smaller sites have a tendency to
become unpopular because of lack of diversity for the trailbike rider. That
is why use of sites adjacent to the Forest Service properties have excellent
potential. For a minibike park, the acreage can be less; for example, 5 to
10 acres as that type of park is subject to different uses than a full-sized
motorcycle park.

• If possible, every opportunity should be made to make multiple use of exist-
ing governmental lands.

Of course, each site will have its own characteristics that make it desirable
or undesirable for off-highway vehicle use; but by using the above criteria
as the basic evaluation considerations, a good start can be made toward the
development of a suitable off-highway vehicle site.
For the past four years, I have carried on a research project which has involved the examination of the physical response of soils and their natural stabilizers to vehicle use. The studies have involved more than 500 sites of off-road vehicle use in seven western states. At its inception, the objectives of the project were to determine the extent of desert surface modification by ORVs, the erosional consequences of these modifications and the life expectancy of vehicle scars in arid areas. Data have been gathered from this project that relate to the physical capacity of soils to sustain vehicle use, the physical and chemical modifications that many kinds of soils undergo from this use, the rates of soil and vegetative recovery, the methods by which these effects can be monitored, and the effectiveness of damage mitigation procedures.

Areas in use by ORVs in the west most commonly are upland or desert areas whose soils typically are shallow, varying from inches to a very few feet thick. The most fertile part of the soil is the upper few inches, which grade down to progressively more sterile rock materials. Even in the same immediate area and with the same parent rock, soils differ substantially according to the facing direction of the slopes on which they occur. In general, soils on south- and west-facing slopes are shallower and less fertile than those on north- and east-facing slopes. Young soils of these lands are commonly 10,000 years old or older, and old soils range to more than a million years in age. Even young soils have probably been influenced by past climate patterns that differ from the present pattern, and old soils may have formed largely under climatic conditions that no longer exist. What will replace these soils if they are lost will be governed by climatic conditions of the future, for the rate of soil formation is probably fractions of an inch per century. If the soil is stripped to fresh rock, even favorable conditions would probably require 10,000 years or more to form a thin, relatively unproductive soil. The soil cannot, therefore, be replaced in any sense meaningful to a human time scale.

When a vehicle operates on natural terrain the soil responds in at least four ways: (1) it is compacted within a cylinder of compression beneath the wheel; (2) a zone of shear failure flanks the zone of compression, but the shearing is shallower and much less comprehensive in its effects than compaction; (3) as the tire deforms in contact with the surface, it exerts a surficial lateral compressive stress; and (4) in motion, the wheel impacts a horizontal shear stress to the soil. The magnitude of the soil responses is much greater in the initial vehicular traverses than from subsequent, repeated traverses.

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than the others. They are also interdependent in that an increase in com-
pressive stress by the use of narrower or more highly inflated tires is
accompanied by a decreased shear stress and vice versa.

The effects on soil of compressive stress include compaction and breakdown of
the soil structure. This in turn reduces the infiltration of moisture thereby
retarding shrink-swell and freeze-thaw processes that restore soil structure.
Loss of pore space reduces a soil's capacity to hold air and moisture, and
reduces biological activity in the soil. Commonly the types of plants most
tolerant of these soil conditions are weeds, particularly Russian thistle,
whose rapid proliferation in many desert ORV areas is bringing deterioration
of wildlife habitat.

The horizontal shear stress impacted to the ground by vehicle motion is
especially important. In normal street tire design, shear failure takes place
between the tire and the surface. With knobby tires ("aggressive" design),
the tire may penetrate the surface so that shear failure takes place on soil-
interfaces. "Paddle" tires designed to aid hillclimbing in soft soil, dis-
place enormous quantities of soil with each pass by this process. The shear
force, since it is exerted at a high angle to the root extension of plants, is
largely responsible for the rapid denudation characteristic of ORV areas. It
is also responsible for the quarrying effects of vehicles through the very
rapid stripping away of fertile upper soil layers, and, ultimately, even
excavation of the underlying rock. Rock beneath the soil mantle at Hungry
Valley and Ballinger Canyon, for example, has been quarried by motorcycles to
depths greater than two meters, and slower, but significant, rates of bedrock
quarrying are widespread in other ORV areas.

Plant foliage stabilizes soil by protecting it from the direct impact of rain
and by breaking up and slowing the overland flow of water and wind. Plant
roots provide a strong binding force to hold soil particles together. In
addition, rock and chemical crusts commonly aid in protecting desert soils
from erosion. All of these natural soil stabilizers are highly vulnerable to
direct and indirect destruction by vehicular use of the land.

Modern recreational motorcycles are capable of breaking down dense chaparral
containing shrubs more than a meter tall, and four-wheel vehicles have estab-
lished trails through dense chaparral with shrubs as tall as four meters.
Small shrubs and grasses are commonly destroyed by only a few vehicular trav-
erses. Indirect effects of vehicular use of natural terrain have caused loss
of mature vegetation, including trees, through the processes of headward ero-
sion of gullied trails, sidewall retreat of channel walls from excessive run-
off, sandblasting, and burial by wind- and water-borne sediment.

With rare exceptions, erosion is a major problem at the 500 ORV sites I have
examined in seven western states. Three dominant processes operate in these
areas: direct mechanical erosion by the vehicles, water erosion, and wind
erosion of surfaces destabilized by the vehicles. Erosion is accelerated in
the ORV areas where natural soil stabilizers have been stripped by the vehicles
or by trail construction and preparation. Adjacent areas, not directly
impacted by vehicles, are also eroded by diversion of excessive runoff to
them, headward gullying, and wind action.

The total effects in terms of soil and rock loss have been measured at a
number of sites. At Panoche Hills, after use by motorcycles for three years, runoff from the ORV area exceeded that of an adjacent control area by a factor of 8. Sediment yield was more than 15,000 tons/km²/yr compared to an amount too small to measure from the control area. By 1978, 7 years after closure to use, erosion rates on a west-facing slope at Panoche Hills are still 50 times the natural erosion rates. Near Red Rock Canyon, a 1 km-long hill lost 11,000 tons of sediment in less than 6 years of intensive ORV use. The Chabot Park site, in operation for 20 years, has eroded at a rate exceeding 11,000 tons/km²/yr and the State Vehicular Recreation Area at Hollister Hills is currently eroding at a rate of more than 6,000 tons/km²/yr. The sensitivity of the dominant soil type at Hollister is further illustrated by measurements of gullying made between January 1976 and December 1977 on a trail that was closed to use in the fall of 1976. Nearly one metric ton per linear meter of trail was eroded in that 2-year interval, which was entirely in the drought period. This trail now has gullies at least 10 feet deep. The hills facing the campground site at Ballinger Canyon in Los Padres National Forest have eroded at a rate of 20,000 tons/km²/yr over a period of about 8 years of intensive vehicle use.

The significance of these figures can be gauged by comparison with Soil Conservation Service standards for soil loss in upland areas under all land uses. This standard is exceeded by a factor of 46 at Chabot Park, 26 at the Hollister Hills SVRA, and 86 at the Ballinger Canyon campground site.

These erosion rates will reduce future options for use of the land and will have adverse environmental consequences beyond the limits of the areas used in proportion to the amount of land eroding. It is likely, therefore, that at some time in the future it will be necessary to rehabilitate the land so used. The feasibility and costs of rehabilitation have not been addressed for this type of land use, as is readily evident from the levels of deterioration that have been permitted on public lands.

Complete data on costs of rehabilitation are scarce, but current efforts to rehabilitate an area used by motorcycles for 20 years near San Francisco have cost as much as $1,000 per acre. The costs for rehabilitating arid and semi-arid lands are likely to be large also. Certain lands, if closed permanently while some soil remains, can be rehabilitated for the relatively low cost of blowing or ripping, installation of temporary erosion control devices, and reseeding or replanting. In general, however, current use styles and levels will likely require costly rehabilitation practices.

Methods of soil conservation applicable to vehicle use problems have been known for many years, and are mandated for
public lands by presidential order (E.O. 11644). They include site-selection procedures to designate least-sensitive areas, trail and road design, management procedures with a view to rehabilitation such as soil stockpiling, and with a view to seasonal variation in sensitivity to use, and limiting damage to the designated site by the use of such devices as catchment dams and windbreaks.

Thorough scientific examination of sites being considered for designation in terms of their ability to sustain the use is essential. Common conservative land-use policies include recognition that the natural state of some lands should remain unchanged (or be upgraded) because of high sensitivity to degradation. In general, the soil is shallower and more sensitive to disturbance the steeper the slope and the drier the climate. Since these are also the lands most readily available and most desired for recreational ORV use, the conflict is evident.

The excessive rates of erosion in current ORV use areas cited above can be understood in terms of the selection processes that led to their designation for ORV use, and the universal soil loss equation, \( A = RKSL(M) \), where \( A \) is the soil loss rate, \( R \), the rainfall factor, \( K \), the soil erodibility factor, \( S \) the slope factor, \( L \) the slope-length factor, and \( M \) management factors applicable to agricultural land use but not to ORV use. It is apparent that the only factors amenable to management, after site selection, are \( S \) and \( L \). While the slope of the land is an intrinsic feature, the slope of the area disturbed (trail) can be controlled. The steepness of a road or trail that can be tolerated without excessive erosion depends on soil type, and, in general, is lower for sandier soils (for example, the critical slope for sandy soils on granitic rocks at the Hollister Hills SVRA is probably about 5 percent, and for clay-rich soils is less than 20 percent). Maximum slopes for most soils, as recommended by the Soil Conservation Service, are less than 20 percent to avoid severe erosion hazard. The length of uninterrupted trail is important in determining how much erosive force running water can gain; this factor can be controlled by switchbacks, diversions, bars, and the like. In general, the slopes and slope-lengths consistent with reasonable erosion control are far less than those that modern recreational vehicles are capable of negotiating, and maintenance of engineering devices to retard erosion is a constant need.

To assure ultimate control of erosion, and to reduce the costs of rehabilitation, trail preparation could include removal and stockpiling of topsoil for replacement when alternate uses of the land are desired. In any event, quantitative monitoring of the level of soil deterioration is essential to a viable rehabilitation program.

Prevention of off-site land damage can be accomplished primarily by careful design of trails, restricting use to the prepared trails, seasonal closures at times of high soil sensitivity (when wet or under certain wind conditions), and remedial methods such as catchment dams and windbreaks.

**ORV LAW ENFORCEMENT**

*by Richard Landstrom*

By definition, motorcycling is a recreational activity and is susceptible to abuse. Road riding is already well governed by rules and regulations
pertaining to open highway motor vehicles, and these laws are pretty well cut and dried. Everyone is relatively aware of vehicle licensing, operating requirements, and equipment requirements.

Off-road vehicle use regulations are not as standardized or well-established. The rules vary with types of use, trails, or private roads versus public roadways. The laws are anything but cut and dried. Nobody, including enforcement officers, is exactly aware of licensing, operating, or equipment requirements.

As with any good thing, when it gets beyond a certain point, somebody has to put a damper on it. Off-road vehicle use has gone beyond that point, and in come the cops with ticket books. As somebody important once said, "It's an idea whose time has come!"

Nobody likes to receive a citation, particularly when it's for just being on the wrong side of a property line while riding around in a place you've been riding for years.

The use of any vehicle on a public highway that results in a violation of the law is usually a result of design or neglect. A speeder is late to an appointment and knows he is speeding, and he makes a decision about being tardy or risking a citation.

For off-road use, I feel that citations are issued more often for ignorance than for willful violations of the law.

The role of law enforcement in the field of recreational trailbike management is exactly the same as in any other area of law enforcement—protection of life and property.

Some consider the trailbike one of the most efficient devices ever conceived for destruction. It can maim or kill people; it can destroy the natural settings most often desired by all types of recreationists by causing erosion; and, it sometimes announces its victory over nature by filling the air with an awful howl.

Any recreational activity can be subject to abuse and most are to a certain extent.

This same trailbike could also be considered one of the most enjoyable tools available for use in family recreation. When properly used it can become an outlet for big city frustrations while providing a healthful form of exercise, so often lacking in a 9:00 to 5:00 job.

The task of enforcement of state and local laws in the field of trailbike recreation is a task involving education of many distinctly separate and opposing groups. The hiker, hunter, or camper not only doesn't understand the recreational utility of a trailbike; he does not want to understand. He hates a motorcycle with a prejudice that is overwhelming.

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The trailbike enthusiast, on the other hand, is so involved with his own activity that he often loses track of the fact that the music of a 400 Yamaha is not really appreciated by the mothers in the next camp who just put their kids to sleep.

Both groups will never get to any realistic mutual toleration without a dose of information and education. Through dissemination of information, the opposing factions can become aware of their responsibilities and their rights.

Therefore, in the interest of preserving life and property, the law enforcement officer finds himself with the task of becoming a mediator. While this can be an awkward task, it is possible for a good officer to bring a degree of peaceful toleration to the campground. Often this calls for the officer to be able to relate to both groups on a logical and reasonable level.

The popularity of ORV use is attributed to the increased leisure time available to many persons and increased available monies that are expended for recreational purposes. The ORVs are relatively inexpensive to purchase and maintain and are relatively easy to learn to operate with a nominal degree of competence. They are physically demanding at times and a lot of fun when used with a degree of caution.

When ORVs reached the point of creating a danger to life and property in Kittitas County (Ellensburg, Washington, area), and funding became available, we began our ORV enforcement program on a grant from the Inter-Agency Committee in Olympia, using funds derived through the sale of ORV tabs and one percent of the gasoline sales tax. The project was funded in its entirety by these funds as a pilot program for a four-month period from August 1, 1976, to December 1, 1976.

The whole of Kittitas County is a recreation spot for the Seattle area because of the short drive and the mild climate caused by the "shadow" of the Cascades. There is excellent fishing, magnificent scenery, and almost always excellent weather.

With few exceptions, the land in the county is open to public use for recreational purposes, and each weekend there are many tourists, hikers, sportsmen, snowmobilers, skiers, or ORV users in the county.

In the upper or western portion of the county there can be found literally thousands of motorcyclists utilizing the natural settings of the Forest Service and private lands. The main attraction for motorcycling in the area is what is known as the "slags." These slag piles are the result of extensive coal mining operations. The crushed rock tailings of the mines were heaped in piles up to about 300 feet high, terraced for easier dumping, and essentially abandoned.

To motorcyclists, hillclimbing is a challenge not easily ignored, and the "slags" are a natural place to practice. Because of the way the piles were constructed, there is a hill for each level of experience within a 20-acre area on the most popular slag heap near the CloElum High School.

The "slags" are the biggest problem in the upper county because of the volume of riders in such a small area. Hundreds of trailbikes are found in the area.
on a summer weekend. They are noisy machines as a rule, and after hours on
the hillclimbs the riders have a tendency to tour the trails that evolved from
bike usage in the area. The trails go literally everywhere in a 20-mile
radius of the "slags" including the towns of CloElum, Roslyn, and Ronald. The
townspople are mostly older people retired from the mines or city work. They
object to being awakened at first light on weekends by noisy motorcycles that
don't quiet down until after dark.

Private landowners as well as caretakers of public lands have a problem with
trespassers. Any hill can be fair game for some bikers and once tracks are
visible, others have to attempt the same hill. The result is usually an ero­
sion problem and scars on the earth that will remain visible for years.

Our main goal in the pilot enforcement program was not to arrest violators,
but to educate the users. We felt that to go from zero enforcement to 100 per­
cent enforcement would alienate the users, the very people we needed to bring
about compliance with the law. We felt that we needed to contact as many
users as possible and get them to police themselves willingly. It was not our
intention to drive the bikers out of the county; they were mostly using public
land maintained by their tax dollars and had every right to use it as long as
they used it according to law, according to common sense, and with respect to
others.

A major problem with educating the bikers was the different policies of the
landowners and the "checkerboard" pattern of land ownership. On U. S. Forest
Service land everything not specifically prohibited was permitted. On state
land anything not specifically permitted was prohibited. On private land (such
as land owned by the railroads and logging companies) anything was permitted
as long as an unaltered spark arrestor was installed on the ORV.

A group of bikers, therefore, can legally take off up a road which is on Boise
Cascade land with no lights and no ORV tab. One-fourth of a mile up the road
they cross into DNR land and are subject to arrest for lighting and tab viola­
tions. Farther up the trail they cross onto Forest Service land and are again
subject to arrest for the same violations. They then could cross into Game
land and be perfectly legal again. In a matter of a mile or so they have
unknowingly broken laws twice and it could cost them as much as $150.00 in
bail, and the minimum fine for each ORV violation is $25 according to statute!

A second goal of our program was to attempt to show a degree of enforcement so
that landowners would not shut down their privately owned lands to public use.
It is easier to prevent an area such as the "slags" from being closed than it
is to get it reopened.

With the problems and geography known, we had to implement the program from
the ground up. For enforcement vehicles we purchased a four-wheel drive pick­
up and two motorcycles. The bikes were a 350 Honda XL and 500 Yamaha XT. The
size difference was in keeping with the pilot program as we were attempting to
find out if either was superior in performance for our purposes. The only
special equipment was red and blue lights on the handlebars to convert the
bikes into emergency vehicles. The truck was equipped with blue grill lights
and a siren. Portable radios were used with both the truck and the bikes on a
repeater system already used by the county sheriff's office. The deputies
were chosen for their professional ability, not for their motorcycle experience.
The first step in the program was to contact the agencies and corporations controlling the area to be patrolled, gathering information about equipment, safety gear, and meeting other agency enforcement officers that it would be necessary to work with.

The program was solidly backed by the public, especially the residents of the upper county where most of the problems were centered. Upon several occasions we were invited to civic group meetings to explain our program and answer questions. We were well received at these meetings.

Other enforcement agencies were unanimous in their feelings that a program of this sort was long overdue. Full-time deputies, however, were not too hopeful of effective enforcement and were not too happy later on about our lack of citations, but were for the most part unaware of our educational emphasis rather than hard-core enforcement.

Pursuit of violators was strongly discouraged. There are several reasons for this policy. We feared that if pursuit was started, it would become a game to be played by the bikers. Another concern was that at high speeds on rough terrain injuries to the violator or the deputy were almost certain to occur.

We found that even as trained officers we began the program blind. Much of the information supplied by other agencies was erroneous and often we were sent back to the lawbooks to look up fine points of law pertaining to public versus private land. The users themselves often had better information than we did.

With few exceptions, the ORV users felt that the program was an excellent idea and long overdue. During the first few weeks there was a lot of apprehension among the users since they didn't know what to expect from us. A few brave ones sought us out to directly inquire what kind of tickets we were going to pass out, but most asked about ORV laws. They eventually lined up voluntarily to have their equipment checked for legality.

We had expected hostility, but it was very rare. We had expected avoidance by the users, but they often chased us down to find out what to expect. We could ride into any campsite or group with little or no problem at all.

This was a different sort of law enforcement than we were used to. We were not lecturing a "captive audience" as is the rule with typical enforcement work, but instead we were meeting people that felt they did not have a citation due them, and did not expect us to be "bad guys." There were so many violations that it was frightening. We answered the same questions time after time—"Where can we ride non-street legal bikes?" "Where is the best place to go to ride?" "What do we get for our ORV Tab money?" "How do I get a job like yours?"

For the most part we feel that the laws are not enforced for ORVs in most areas of the state, and in those rare areas where they are enforced, it is only half-way. There was so much misinformation found in the users that everyone became confused as to what was legal. Many had purchased their vehicles from dealers and were told not to worry about ORV tabs or licenses, particularly in the Seattle area.
Our program was even felt in the Department of Motor Vehicles licensing division in Ellensburg. Up until the middle of August they had tested an average of four people a week for motorcycle endorsements. During September and October they were turning applicants away each week.

Across the Columbia River to the east of Kittitas County lies the small town of Matawa. Twice a year they have a desert race that runs about 100 miles through sand, rocks, and sagebrush. The ORV deputies were invited by the Grant County sheriff's office to assist in the enforcement, not of the race but of the public roads in the surrounding county.

Traditionally, there are dirtbikes all along the roads limping back to the pits after breakdowns and the observers ride the roads to and from the course on their non-highway legal machines. There are lots of law enforcement problems during the race weekend.

Upon our arrival we were issued citation books and Grant County commission cards, introduced to other enforcement agents in the area, and we hit the roads expecting lots of enforcement problems.

It was the quietest race they've ever had. Evidently our purpose was well publicized over CB radio as we drove through the pit area and then out to the public highways. Many of the users contacted near the race course had already been contacted earlier in the summer in Kittitas County and now that we had the capacity to enforce the laws by use of motorcycles that were capable of going where the bikes could usually evade patrol cars, the users conformed.

That was it. A pair of deputies on motorcycles patrolled the blacktop without any serious violations by bike users. For the most part it was boring but it served a purpose. Violations had gotten to the point that it was possible future races would be cancelled. With the quiet race held that weekend, even the local population had few complaints. The bikers actually policed themselves and contributed to keeping the event open.

We had contacted thousands of recreationists in the four months, and with a handful of exceptions we were well-received and accomplished the majority of our goals. Our compliance rate rose and we had no land closed down to use by bikers or hunters. People realized the need for the enforcement of laws in the back country and willingly complied in a reasonable manner. We did not intend to cite people for all infractions, and ended up with fewer than a dozen arrest citations for the period of the grant.

By no means did we rectify all of the problems that continually occur in the county, and we probably never will; but we were able to contact these users on a personal basis and build up a rapport that created a great deal of self-policing by the users themselves.

In my opinion the program was developed through need; it was properly and adequately funded; and it was administered properly to achieve the results we had intended it to achieve. Kittitas County is continuing to run the ORV patrol as long as funding is available and the need for this type of enforcement is apparent.
USER EDUCATION AS AN ENFORCEMENT TOOL
by Charles LeValley

Most of us who patrol forest roads and trails have attempted to stop a trail-bike rider; and we are well aware a special skill is needed to apprehend one who will not stop willingly. Pursuing trailbikes with a patrol car is not at all practical and even trailbike versus trailbike is extremely hazardous. In fact, chasing fleeing trailbikes at all, for the most part, is an exercise in futility. Therefore, if we are to effectively control their activity, there must be another way.

Michigan has developed ORV user education as an enforcement tool. The beginning was 1975 PA319 mandating development and implementation of a user information and education program, followed by an appropriation of funds for that purpose. Successful elements from the hunter, marine, and snowmobile safety education programs were incorporated with variations to allow for the uniqueness of the sport. After 18 months of interviews, observation of sport participation, review by educators and sport participants, text editing and layout, the first recreationally oriented ORV user education program in America became a reality.

The use of this tool for enforcement purposes can best be demonstrated by visualizing the educational process in action:

- LEARNING RIGHT FROM WRONG

How many times have you been stopped by a uniformed officer and offered as an excuse, "Gosh, officer, I didn't know that!"? Sometimes the officer is sympathetic toward our lack of knowledge and conducts the lesson at the site. More often, however, we learn from a judge or magistrate by special invitation initiated by the officer. Needless to say, this lesson is more time consuming and costly.

By contrast, the ORV user has the opportunity to learn the same lesson in a classroom. After forming a proper attitude of safety and respect, we then operate within the law, allowing the enforcement officer to direct his efforts elsewhere.

- INTRODUCING AN ATTITUDE OF RESPECT

Given a similar situation to the above, the ORV user receiving a citation and making a court appearance usually comments, "I'll never make that mistake again!" But we may make other mistakes and errors in judgment resulting in each lesson being learned the hard way.

In the classroom a series of lessons are presented, giving us an overall concept of not only what the proper attitude is, but why we should maintain it.

- CREATING A FAVORABLE IMAGE

In both the foregoing situations, the officer is portrayed as the "good guy" and the cyclist is the "bad guy." But the reverse could be and often is true. Law enforcement officers sometimes have the image of hard-nosed,
narrow-minded cops whose success is measured by the number of citations they issue—usually in full view of other sport participants. Then the sympathy is often extended to the person receiving the citation.

But the same officer participating in a user education class is treated with respect. He is recognized as an expert in his field. The students are receptive to his message and are more cooperative.

Some results or products of user education are subtle or entirely intangible while others are evident. I want to mention a few we strive for:

- **Increased registration.** Currently less than a third of the estimated number of vehicles operated off road in Michigan are registered; but, we continue to provide more facilities each year as registration increases. When riders become aware of the increased number and higher quality riding opportunities, they tell their friends, who then register their vehicles. New participants also try the sport. One perpetuates the other.

- **Awareness of safety.** This is one of the more subtle benefits, because someone is bound to get careless and wipe out, especially in motorcycling. But overall, the sport becomes safer when earlier years of operation are compared to more recent ones.

More important, perhaps, are the safety improvements in the machine itself. Such things as folding saw-toothed metal footpegs instead of stationary rubber pegs were devised to fill a special need. When accidents happen, manufacturers look for a way to prevent similar accidents. The safer the sport, the more people it attracts.

- **Respect.** In every class I monitor, respect receives more emphasis than any other lesson. In fact, sometimes I remind the instructors they are teaching, not preaching. In Michigan there are three areas of respect that need considerable improvement.

1. Respect for the other user. This includes consideration for the person riding a different kind of machine than you are, as well as the other users of the outdoors not riding any.

2. Respect for other people and their property. Some landowners are ORV riders, but the vast majority are not. Trespass is a real problem, both on private property and on state lands closed to ORV use. One incident can close the land to ORV use forever.

3. Respect for the environment. Michigan is green and scenic and has been a haven for outdoor sports long before ORVs arrived on the scene. When people see the forests and hillsides become rutted and marked with trails, they become disturbed and overreact. We even have difficulty clear cutting forest land for wildlife management.

Charles L. LeValley works for the Michigan Department of Natural Resources Law Enforcement Division where he became a conservation officer in the Detroit metropolitan area in 1966. Since 1974 he has been Field Coordinator for recreation safety education programs as an ORV/Snowmobile Enforcement and Safety Education Specialist.
The lesson in respect is going to be a long and difficult one, but the riders must learn it, if the sport is to survive. Remember! It's much easier to patrol land use closed than control land use open.

- **Voluntary compliance.** User education, even for the short period we have had it, is successful within the clubs and organizations. We are becoming increasingly aware of incidents and peer group enforcement. Our department works closely with the clubs and organizations—and you won't find a more cooperative group of people anywhere. If it were not for them, we would not have an ORV safety education course today. They provided the money, they requested it be a part of the law, and they helped us put it together!

In closing, I want to leave you with a few thoughts to emphasize the role user education plays in the law enforcement officer's "tools of the trade." Laws govern everything we do. They tell us what our actions and attitudes should be. Effective law enforcement is a necessity of life. For the minority, agency law enforcement is the *immediate* and only solution. Apprehension and arrest (sometimes more than once) is the manner by which they must learn. For most of us, however, the educational approach is more effective. We are content to learn in the classroom and willingly comply.

**ANTIQUITIES AND MOTORIZED VEHICLE ENTHUSIASTS—ARE THEY COMPATIBLE?**

*by Donald V. Hague*

The activity of museums in educating the public may have parallel application in educating our citizenry to our natural resources in the out-of-doors. I represent the Utah Museum of Natural History at the University of Utah in Salt Lake City. Our disciplines are basically concerned with geology, biology, and anthropology. In this last category, the museum, as the state museum of natural history, is responsible for curating extensive collections of archaeological materials recovered throughout the state over a period of some 80 years. Interpretation in the museum is of a different type than what we have in outdoor situations; but, basically, the problem of educating the public is similar.

Museums were on the cutting edge of outdoor interpretation of natural history. A nature trail was first used at the Palisades Interstate Park near New York City in 1925, and the American Museum of Natural History established there a station for the study of insects. The original trail was a mile-long woodland path where trees, shrubs, herbs, insect workings, and a few temporarily caged insects, reptiles, and mammals were labeled for the benefit of the public. The trail was divided into two half-mile sections, each taking the form of a loop. The first or "training" trail was designed to convey information. Specimen tags with brief legends were attached or placed near features along the way. Some labels referred to single objects; others made general statements. In most instances more...
than a name was given. Informative comments, playful allusions, suggestive questions, and even quotations of prose or poetry were introduced. Toward the end of the training trail, labels were attached in pairs, the top one asking questions and the bottom one answering them. Glass jars inverted in the grass or covered and set on rustic brackets captured insects for a period of time—long enough, at least, for study.

On the second half-mile section, 50 numbered labels—each one asking a question and all constituting an examination on subjects presented by the training trail—were presented. This idea, modified, of course, has been successfully spread to our national parks and to all manner of public and private nature museums and outdoor centers. It is still the principal means of getting the public involved in our interpretive programs.

As a museums person, my concern for antiquities stems from years of study of early cultures, of presenting those objects and information in an exhibit context, and of having had the opportunity to participate in a number of archeological digs. There is a tremendous thrill in being present when an object of antiquity is found and knowing that you and your colleagues are the first to observe it in perhaps thousands of years. There is also a sickening feeling when on occasion you return to your site to do further work to see gaping holes where vandals and pot hunters have raped the area. Many of these deliberate criminal acts are by individuals who obtain pottery to sell for profit. Two years ago in Utah, a site was destroyed on BLM lands by vandals who were ignorant of the fact that there was no pottery; in the process of looking for what wasn't there they destroyed 6,000 years of a record—leaving bone, basketry, textiles, and other fragments lying in heaps. To the vandals they had no market value, and for the archeologist they had been shattered with picks and shovels beyond recovery for scientific use. Without a doubt, off-highway vehicles were used to gain access to this site.

People removing materials from or vandalizing archeological sites usually fall into three categories. The first are those individuals who knowingly violate the laws in digging to recover material which can be sold. The second are those individuals who unknowingly remove objects and are unaware of the laws and, in some cases, set themselves up as self-proclaimed amateur researchers. The third are another class of people who deface pictographs and petroglyphs with their names, graffiti, and often obscenities.

The fundamental antiquities laws in the United States were enacted first on the federal level, and they serve two principal functions. They are of a regulatory nature whereby historical sites and data will be protected and preserved, and they assist funding in states and communities that would otherwise probably be forced to refrain from preserving and restoring some of their features.

The first federal legislation affecting archeology was the Antiquities Act of 1906, in which the federal government recognized the need to protect archeological sites and allowed for grants to assist in this task. This act also declared vandalism of such sites to be a crime.

The 1906 act was followed by the Historic Sites Act of 1935, which expressly proclaimed that archeological and historic sites belong to the people and that all efforts regarding preservation are to be undertaken for the public good. The National Park Service was specifically directed to invite scientific
research in order to accumulate data for proper historical study.

The Reservoir Salvage Act of 1960 is a more specific elaboration of the 1935 act regarding the recovery of archeological materials. It declares that federal construction of dams, for example, must be halted if there is evidence that a study of archeological or historical data should be undertaken before construction may continue. This is the principal federal legislation by which many states have enacted their own statutes regarding salvage archeology.

The Salvage Act was followed in 1966 by the Historic Preservation Act, which is considered the most important piece of federal legislation of its kind. Through this act, the National Register (those monuments and sites recognized by the government as being of national significance) was allowed to include many of the less outstanding historic sites in the country. The act also establishes the concept of grants-in-aid to states, usually by a matching funds arrangement.

The National Environmental Policy Act of 1969 is a broad statute with several connotations. It is, in general, directed toward the realization of a national policy to determine the need for actively pursuing programs which will add to the historic, cultural, and natural aspects of our national heritage. All federal programs are, according to this act, implemented by the National Park Service, which determines the extent of federal participation.

The majority of the states have followed the federal government's lead and have enacted statutes of their own, aimed mainly at the protection of state-owned lands. Utah's Antiquities Law was passed in 1973. Amended legislation passed in early 1977 included protection of paleontological remains. The difference in the laws, the funding, and the activities in the various states is enormous.

For some of you present, the problem of providing an antiquities experience for off-highway vehicle (OHV) enthusiasts is not as large as the one we have here in Utah. In our 84,000 square miles of land, some 70 percent is under state and federal ownership. Next to Alaska and Nevada, Utah has the biggest share of public lands among the 50 states. It also possesses one of the largest archeological resources, equalled only by Arizona and New Mexico in the continental states.

The problem is to balance the antiquities experience for off-highway vehicle users with the necessary and mandated protection of our finite archeological resources and, in the process, minimize the environmental impact upon the land,
its plants and animals. We must recognize the wilderness experience which other outdoor enthusiasts are entitled to, and some of these view the presence (both visible and audible) of motorized vehicles as an adulteration of their experience. Another dilemma we face is that the same vehicles we use for recreation are the ones which make it possible for thieves and vandals to reach difficult sites and to be gone before law enforcement people can apprehend them. We know too that these vehicles are the ones we need in patrol work and rescue operations. Another problem is that not all lands within each state are administered by the same authorities for purposes of enforcement. On the enforcement issue, we are further confounded by attitudes of many local people—including some law enforcement personnel, and even judges—who consider archeological sites to be the privileged sanctuary of the local natives; and I don't mean Indians.

Perhaps one answer can be found in the recent actions of certain African nations. They have recognized that the diminishing game herds which were for years a great attraction for hunters from all over the world are themselves finite and, in many cases, threatened with oblivion. In Kenya, hunting is only allowed with a camera now. Taking a cue from the anonymous saying, "Take nothing but pictures; leave nothing but footprints," the Kenyans have switched their economy from one dependent upon the slaughter of their game herds to that in which the ennobling values of conservation and preservation are foremost. They have done this without a substantial loss in income.

The creation of a new kind of ethic in America is one of the greatest challenges before us if we are to be successful in preserving our archeological resources and in allowing wider use of our public lands, including use by off-highway vehicle owners. We must continually reinforce this idea—that people can look but not disturb. It is an interesting fact that more and more archeologists are working sites and leaving behind material for which their museums already have sufficient examples. This trend will provide additional opportunities for visitors to see certain objects in their natural context, provided, of course, that they are left undisturbed for the next group to observe.

If we are to allow wider off-highway use of our lands to motorized vehicles, there are several considerations which I believe are essential to accommodating this:

- Wherever possible, vehicles should be registered at an entry to an area where antiquities are present.

- There would be a limit as to how close off-highway vehicles can approach archeological sites. Proper barriers, signage, etc., should prevent machines from getting too close.

- Interpretive signs and other devices which can help focus visitors' attention upon sites and features (an example is the telescopes found on Utah Highway 95 near White Canyon which focus on geological features) can be useful in educating the public to area resources.

- Pamphlets and other literature with appropriate maps to preclude people getting lost and also to enhance the experience should be part of any program; instructions on sanitation facilities, warnings on littering, and locations
of refuse cans are essential to this concept.

- Safety programs sponsored by motorized vehicle clubs and which emphasize ethical conduct in the environment, proper handling of motorized equipment, and emergency and survival procedures are also an essential element in any program aimed at opening up archeological areas to ORV.

Whether or not we can expand and enhance the experience of the off-highway vehicle user is up to planners and how they interrelate to their state and federal counterparts. We know that the use of these motorized vehicles will continue to grow, and there will be continuing pressure for more use areas. Broader education of the public and cooperation with agencies, clubs, industry, and the media are all essential mortar in the building of proper attitudes for legitimate use of our public lands by this segment of our society.

AN ATTITUINAL COMPARISON OF RESOURCE MANAGERS AND OFF-ROAD MOTORCYCLISTS IN THE SOUTHWEST
by Robert C. Wendling

Contributing to the rapid growth in use of the nation's recreational resources was the geometric increase in off-road vehicles during the late 1960s and early 1970s. Though the rate of increase has moderated, ORV use of public lands continues.

One of the most popular types of ORVs is the off-road motorcycle. Over four million off-road motorcycles were operated in the United States in 1972. Motorcycles in general increased 400 percent from 1968 to 1972, and 65 percent of those sold in that time were off-road or street-trail machines. In 1976, a record 5,422,100 cycles were used off the road.

Accompanying the increased use of public lands by ORVs were a number of environmental, administrative, and social problems. A review of research on these problems has indicated our lack of understanding the behavioral and attitudinal aspects of ORV use. As numerous researchers have argued, many of the environmental and administrative problems confronting resource management require sensitivity and responsiveness to the attitudes, preferences, perceptions, and beliefs of users and managers alike. Unfortunately, most resource management efforts do not address user attitudes. Likewise, users have very little understanding of manager attitudes. Dissatisfaction and conflict often result.

Review of the relevant literature indicated that few attitudinal analyses on off-road motorcycling have been conducted. Though Bury and Fillmore (1974) analyzed non-user perceptions of cyclists, research has not been conducted on off-road motorcyclist attitudes toward resource managers, and manager attitudes toward off-road motorcycling. Consequently, this study focused on those attitudinal objects.

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The study was conducted
during 1975-1976 in an eight-state area located in the south and southwestern portions of the United States; it included Arizona, Arkansas, California, Louisiana, Nevada, New Mexico, Oklahoma, and Texas. Three federal land managing agencies were chosen; they manage the major riding areas for well over half of all ORVs in operation and over one-fourth of all off-road motorcycles. The three agencies included the Bureau of Land Management, U. S. Army Corps of Engineers, and U. S. Forest Service.

Field managers were surveyed by mail-back questionnaire. Due to the small number of managers (314), the entire population was surveyed. Data collected from that sample included socioeconomic information and manager attitudes toward off-road motorcycling.

Mail-back questionnaires were also used to survey off-road motorcyclists who ride on lands managed by the three agencies. Due to an undefined population, selection of the cyclist sample was non-random. Cyclists were given mail-back questionnaires at fourteen riding areas. Data included socioeconomic information, preferences for the natural and manmade characteristics of usual riding areas, and cyclist attitudes toward federal land managers.

Empirically, this study analyzed (1) federal land manager attitudes toward off-road motorcycling, (2) off-road motorcyclist attitudes toward federal land managers, and (3) cyclist preferences for the natural and manmade characteristics of their usual riding areas. Conceptually, it focused on the relationship between organizations (e.g., resource managing agencies and motorcycle groups) and the attitudes of members representing those organizations.

Results of this study provide recommendations to assist federal land managers in improving opportunities for off-road motorcycling. These recommendations are based on the analysis of cyclist preferences, and manager and cyclist attitudes. Since the respective populations were sampled non-randomly, the recommendations should be used cautiously.

RESOURCE PROVISIONS

- Trails should be winding and include a variety of gently winding and very winding conditions.
- Riding areas characterized by loose soils should be provided.
- Trail conditions should be moderately moist or dry with little dust.
- Riding areas should be located primarily within forests.
- Riding areas should not be located on flat terrain. The preferred types included mountains and valleys, hilly, and gently sloping or rolling.
- Restroom facilities should be provided. However, additional services and facilities other than those provided by supervisory or maintenance personnel were not preferred.
- Additional recreation opportunities, other than facilities for camping, should not be provided. Cyclists indicated that camping was the most
preferred activity in addition to strictly riding; preference for other activities ranked low.

An overriding concern of this investigation was a comparative analysis of managerial attitudes among three federal agencies. As the findings indicated, field managers' attitudes toward off-road motorcycling differed among the three agencies. Corps of Engineers field managers were dissimilar from their counterparts in the BLM and the Forest Service; a much larger proportion of Corps managers reported unfavorable and neutral attitudes. This dissimilarity may be due to different resources managed by the three agencies. The Corps is more water-oriented while the BLM and the Forest Service are more land-oriented. Most important, management units of the Corps are usually smaller than those of the BLM or Forest Service and more frequently located near large metropolitan centers. Consequently, off-road motorcycling on Corps units is more concentrated, user conflicts occur more frequently, and environmental impacts are more evident. Corps managers could understandably be expected to develop unfavorable attitudes toward off-road motorcycling.

A major finding of this investigation was that off-road motorcyclist attitudes toward federal land managers are independent of club membership; that is, member or not. More specifically, findings indicated that regardless of club membership, most cyclists were characterized by unfavorable or neutral attitudes. The large number of neutral responses revealed that many cyclists have not formulated a favorable or unfavorable attitude toward managers. Consequently, the opportunity, as well as need, exists for resource managers to provide a more positive image. Finally, though very few cyclists held favorable attitudes, those who did were more frequently members of clubs.

Another finding of value to ORV management was based on the somewhat confounding interplay of three variables—managing agency, quality of riding area, and cyclist attitudes. First, cyclists who rode on Forest Service land more frequently held unfavorable attitudes, though unfavorable or neutral attitudes characterized cyclists regardless of managing agency. Second, quality of riding areas differed among agencies; that is, quality improved from Corps to BLM to Forest Service lands. Finally, the majority of cyclists held unfavorable attitudes regardless of riding area quality, though unfavorable attitudes were most frequently reported by cyclists who rode on below average riding areas. In essence, these findings indicate that regardless of riding area quality, land managing agency, and club membership, off-road motorcyclists held unfavorable or neutral attitudes toward federal land managers.

In light of this study, what can one say about cyclist and managerial attitudes? The large number of unfavorable attitudes may be the result of a social-psychological phenomenon labeled "stereotyping." That is, off-road motorcyclists have constructed a negative image of all resource managers; similarly, noncyclists, which include managers, other resource users, and the general public, have developed negative images of cyclists. As a consequence, unfavorable attitudes, breakdown in communications, and even conflict result.

What then is needed to improve the existing situation? In one word, communications. Based on the findings of this investigation, most off-road motorcyclists as well as many resource managers have unfavorable attitudes toward one another. Until those attitudes are improved, dissatisfaction and
conflicts will continue. The solution lies in communications; tools and know-how are available and have been utilized successfully as illustrated in the Turkey Bay ORV Demonstration Project located at Land-Between-the-Lakes. As that project revealed, the key ingredient to successful ORV use and management lies in participation by all groups potentially affected by a proposed ORV riding area. Such participation begins with the initial planning idea and continues through implementation and operation.

PROFILE: THE TRAILBIKER
by Kenneth C. Chilman

In studying trailbike users at the Turkey Bay ORV Area at Land-Between-the-Lakes, we have discovered some data that begins to form a pattern. More important, we have developed a method for gathering such data that we hope you will be able to take back to your home area and begin to use. The method should offer immediate benefits to both the recreational user—in this case, the trailbiker—and the recreation manager.

The following three-part discussion deals with (1) development of the data collection method in relation to large land area recreation planning, (2) application of the method at Turkey Bay Off-Road Vehicle (ORV) Area, Land-Between-the-Lakes, Kentucky, and (3) what we envision as future refinements of the method and future studies at Turkey Bay ORV Area.

DEVELOPMENT OF THE METHOD

The method we are talking about here is a short interview, or mail-back questionnaire that attempts to relate the visitor's recreational experience to the particular environment he is using for recreation. A short interview is conducted with the visitor on site, mainly to associate the study with that particular recreation area and visit, to explain the study in terms that relate to the visitor's continued use of that area or similar areas, and to solicit the visitor's response to a follow-up questionnaire. Our experience indicates that the interviews should consist of no more than seven or eight questions so the visitor will not be detained more than a few minutes.

The method rests on two basic assumptions. The first is that for any given large recreation area, there are different types of users, or users with different reasons for being there. The second is that any concept of "quality" management rests on meeting, or improving upon, these user expectations. Consequently, the interview focuses on questions that might help to differentiate user types by expectations. It asks basically, "Why did you come to this particular place at this particular time?" and "What did you expect to do or to find here?"

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been completed. The five stages of a recreational experience as outlined by Marion Clawson (Land and Water for Recreation, 1963)—anticipation, travel to, on-site, travel back, recollection—are used to help determine what a person actually does on his trip. The questionnaire provides information useful to estimating site impacts by different user groups, and may suggest possibilities for modifying such impacts by providing particular kinds of information or facilities.

What about the method in the larger context of what we call a manager-oriented recreation planning system? It is as important to gather management planning data about physical changes on a recreation area as to gather data on area visitors. Our aim here is to help recreation area managers with limited resources begin to set priorities for data collection by gathering information about visitor expectations about the area. Visitors may be seeking or expecting something entirely different than the manager is thinking of, and the sooner he finds out about it, the better. In other words, identification of key attractions can help managers focus on their information needs sooner.

The other half of these initial information needs is to develop collection methods within limited budgets and time. We have been learning about this by working under these constraints ourselves. For example, a budget of $750 provided by the American Motorcyclist Association for the 1973 trailbiker study discussed herein is about what we have had to work with in most initial studies of users of an area. The time constraint of having one man for part of three months is also about par. While it is true that we could do more with more money, we think it is important to have some data, however imperfect, for recreational land planning decisions rather than continue to wait for "perfect" information.

It may be useful to describe some of the past recreational user studies we have done that led up to our trailbiker study, and some of the things we have learned. Two user studies were undertaken in 1970—one at the Busch Wildlife Area (an 11-square-mile area on the edge of St. Louis County) and one on the upper Current River in southern Missouri. Both of these tested the short interview-questionnaire methods. One interesting fact noted in these initial studies was that very few people refused to be interviewed. We had worried about refusals (or worse) at that time, especially because it was a time of campus unrest, and we visualized some hostile responses when we introduced ourselves as being from a university. However, this was just not the case. During the Current River study, only one person refused to interview out of 700 persons contacted, and this has been about what we have experienced in other studies.

In these first two studies, we were aiming at determining different types of recreational visitors as they entered large land areas. In subsequent studies, we focused on particular user types: canoeists on the Eleven Point and Current Rivers in Missouri, wilderness hikers in the California Sierras, and trout fishermen at a private park in Missouri. Again, we found a variety of expectations (or user types) within particular user groups, such as canoeists or, in the present case, trailbikers. It has seemed to us that managers and others have tended to overgeneralize about users by groups. Our studies and other studies show quite different expectations within user groups which should be important "quality" management information in meeting the needs of more users.
We have discovered that when visitors come in groups, it is difficult to interview one person from the group without considerable "outside participation." And visitors have been especially receptive to interviews from persons wearing the particular agency uniform. We solved the first problem by making a handout interview sheet for all group members to fill out at the same time. The second reaction is not a problem. People seem especially happy to "talk to a ranger." Many said they had been visiting the area for years, and this was the first time anyone had asked them about their views.

Finally, we view these initial studies, such as the trailbiker profile, as the first in a series of planning studies. We believe that too often planners have rushed out to do the whole job in one shot, spending most of the available funds before some key facts were available.

From the questions asked this year, we can focus on particular items that seem most significant and revise the questions accordingly. Therefore, keep in mind when evaluating the following results that we were largely experimenting with the research method and trying to learn more about the Turkey Bay research situation this summer.

RESULTS, INCLUDING TRAILBIKER PROFILE

Our ORV study at Land-Between-the-Lakes consisted of a short interview and a take-home questionnaire. The interview was designed so that it could be administered at any point in a person's visit to the area. It was also approximately five minutes in length so that it would not substantially interfere with the trip experience. Interviews were conducted at each of the three main camping and staging areas at the Turkey Bay ORV Area. It was determined that interviews could be most conveniently administered just after people returned from a trail ride. Because most riders were part of a larger group, interview forms were distributed to each rider in the group. The interviewees completed the forms themselves while the interviewer remained available for any questions regarding completion of the interview form.

Interviews were conducted on randomly selected days and were administered on nine randomly selected visits to Turkey Bay Area consisting of nine weekend days and six weekdays between May 20 and August 4. Of this total, two days were holidays (Memorial Day and Independence Day). Daily sampling hours were from 9:00 a.m. to 6:00 p.m. with the majority of sampling being done between 10:00 a.m. and 12:00 noon and 2:00 and 4:00 p.m.

There were 95 questionnaires returned out of 155 interviewees. This did not include follow-up letters concerning the questionnaire. Returns at this time are 61 percent with a final return expected to be about 70 to 80 percent.

The response to the actual on-site interview was overwhelmingly good, with no riders refusing to be interviewed. It seemed important to establish the purpose and value of the study to the interviewees before actually proceeding with the completion of the form. It also seemed important that the interviewer in such a study have a common interest in motorcycling and trailriding to enable him to establish a good rapport with those being interviewed. Rider response was very good, friendly, and indicated their sincerity in furthering this recreational activity.
"Profile of a Trailbiker"

For the most part, the trailbiker lives in a rural area. A majority of riders came from within 30 miles of Turkey Bay. Within this area there are only two cities over 15,000 in population (Paducah and Hopkinsville, Kentucky). Many respondents came from small, sparsely populated rural villages and towns. Although the urbanite and suburbanite also participate, they do so to a much lesser extent.

It is evident that off-road use of motorcycles is also becoming a more family-oriented activity. Over 60 percent of those responding indicated that they were part of a family group during their visit to Turkey Bay off-road vehicle area. In addition, many of the others were groups of friends, indicating that trailriding is almost exclusively a group-oriented activity. Average party size of groups interviewed was seven persons with a majority of the participants being between 22 and 35 years of age. While females were outnumbered more than three to one as actual ORV riders, many more visited the area as a nonriding group member. Riders were usually divided between using trail bikes up to 125ccs and between 126 and 250ccs in size. Very few riders used machines larger than 250cc.

Over half the visitors to Turkey Bay were first-time visitors and learned about the area from their friends and fellow riders. Newspapers and magazines were a distant second as a source of information. Nearly half these visits were overnight-weekend trips with Turkey Bay as their main destination. Of those that stayed overnight during their visit, 83 percent stayed at the campgrounds at Turkey Bay and 35 percent used tents as a primary shelter with trailer campers a close second.

Respondents to the study indicated that the average bike riding experience was 4.8 years and that a majority had ridden their bikes between 36 and 59 times in the previous 12-month period. Over 20 percent of the respondents indicated they were members of an organized club or group, with American Motorcyclist Association membership being the most often mentioned. A majority of the interviewees indicated that they also use private lands (farms, strip mines) for off-road vehicle riding with lesser numbers using state parks and forests and national parks and forests. Most respondents were laborers or craftsmen. However, a wide diversity of occupations were represented (including lawyers, doctors, managers, etc.).

Off-road vehicle riders indicated that the diversity of terrain (hills, ridges, meadows, etc.) with a lake bordering the area provided a desirable physical setting for riding. The hills and numerous trails, the variety of terrain, and the wilderness effect (including observation of wildlife) were mentioned as features the riders enjoyed most during their visit to Turkey Bay. High points of their visit to Turkey Bay in order of popularity were trailriding on good trails, camping, meeting people while camping and relaxing, and the hills providing a challenge during trail riding. In contrast, riders listed as low points poor facilities in camp areas (no water, electric hookup, poor toilets, no picnic tables), noise after hours and fast riders through the camp area, and some crowding and conflicting movement on trails. Activities participated in during their visit by respondents were 44 percent camping, 48 percent swimming, 38 percent picnicking, 13 percent boating, 13 percent photography, 11 percent hiking, 10 percent fishing, 50 percent nature
study. Most visitors seemed happy with the area and mentioned they planned to visit the area again. Some suggestions for improving the area included the improvement of facilities at the Turkey Bay campgrounds (water, picnic tables, electrical hookups), making some trails one-way to prevent accidents and conflict, and restricting speed in campgrounds.

In establishing a profile of trailbikers, it became clear that ORV riders are gregarious by nature and tend to congregate in groups while engaged in ORV riding. Studies substantiated the idea that most trailriders ride as family units, as groups of friends, or a combination of these. In view of this profile image, further studies could focus upon the needs and desires of group units.

FUTURE STUDIES

As emphasized earlier, this trailbiker study at Turkey Bay ORV Area is visualized as one of a series of studies. Our plans for continuing this sequence of studies include:

- Studies to establish more definitive parameters for area user populations.
- Studies to establish population monitoring procedures that can be carried on systematically (an inexpensively) by management personnel.
- Studies of changes in use patterns and user populations caused by changes in management programs or area development.
- Studies on effects of information dissemination about area conditions, including both off-site conditions and on-site interpretive programs.
- Long-term studies of crowding effects as use grows.

To work toward some "best" situation requires data for measurement of progress. These data have usually been lacking for the people part of the equation, and often for the land part of the equation. Here we need only say that data collection methods are beginning to be tested. They will need refinement through such techniques as in-depth interviews, and that is why we visualize a series of studies. Ways to count numbers of visitors and amounts of use, both for the total area and by particular portions of the area and seasons, need to be worked out.

These data can then be combined with area physical change data, as reported from monitoring systems. Decisions can then be made as to changes that are tolerable and ways to keep change within acceptable bounds can be investigated. Finally, an important part of thinking about recreational planning data collection and the use of these data is "How are findings to be communicated to the users?"

In specific terms, what does this mean for our future studies at Turkey Bay ORV Area? Specific studies in the following sequence are visualized, along with the long-term continuing "crowding" studies:

- Extend the present on-site interviews to other seasons, i.e., this winter
and spring, to get more definite notions of user populations. Are the same user types in all seasons, or do differences occur?

- Establish a statistical use count system beginning next summer. Sample persons exiting at various places on the area in terms of their numbers and types and amounts of use.

- Refine interview questions, especially in specifics of riding activity on area (how long, where, with others, etc.) by in-depth interviews in camp areas to establish key indicator questions for a future low-cost monitoring system.

- Establish a manager planning and monitoring system along the lines of steps in the planning process outlined by Ron Vleck in *Recreation Symposium Proceedings*, Northeastern Forest Service Experimental Station, 1971.

Is it worth spending time on such applied research toward a manager-oriented planning system? From other similar studies, we can give some indications of usefulness. For example, four and a half days of visitor data collected in 1972 at the Ancient Bristlecone Pine Forest in California helped to make a decision about the implications of rebuilding and paving some 11 miles of high-elevation road. Although some complaints had been received about the poor condition of the road to Patriarch Grove, we had data to show that 34 percent of the visitors we interviewed asked that no more improvement occur to the area as they would bring in more people and detract from the area's particular charm for them. We can cite other examples that indicate to us that we might be on the right track, but we leave that for your evaluation and judgment. We sincerely hope that you will communicate to us, today or later, what you think of these effects.

TRANSPORTATION SAFETY AS A RATIONALE  
by Steve Hilts

The Iowa Department of Transportation has completed the development of an off-road motorcycle/snowmobile facility located near Knoxville, Iowa. This facility has been in operation since April of 1978 and has experienced success and growth since that time.

The Iowa Department of Transportation's involvement began with a concern for transportation safety. The number of fatalities of motorcyclists during the previous years caused concern with state officials, namely, Mr. Victor Priesser, then the State Director of the Iowa Department of Transportation. Priesser felt motorcycle safety needed to be addressed which he did through a special legislative appropriation. Normally the State Conservation Commission or the Department of Natural Resources would administer such a program but the concept initiated by the Department of Transportation was accepted by the Iowa Legislature. The land was obtained in cooperation with the Marion County Conservation Board which had some 600 acres

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deeded to them for a wildlife refuge. The heirs to this deed were contacted and were asked to allow motorcycling and snowmobiling in the area. I am the Iowa Motorcycle Park Project Coordinator, and we began construction of the facility in late fall of 1977. Today the park consists of 600 acres of off-road riding, including both a perimeter road and an interior trail structure. The park has been built with the concept of a ski resort in mind with symbols recognizing the difficulty of the terrain. The facility is divided in half by a paved county road and is married by two five- by seven-foot stock path culverts constructed beneath the roadway for the safety of the users.

The competitive area has been developed which generates needed revenue for park usage. The competition areas include a lighted motocross track, a lighted quarter-mile teardrop track and a lighted hill climb event area. The park consists of several lakes which add beauty to the area, which was originally an abandoned strip mine.

The park is insured for $1,000,000 under a single combined limit liability policy. Indications are that there have been no claims under that policy since the opening of the park, which is a positive reflection of the park policies. Helmets and protective apparel are required during operation. No night riding is allowed in the trail area, although primitive camping is now available.

Future construction includes electrical hookups for the camping area, improved picnic areas, shower facilities, a car wash, a softball field, horseshoe competition areas, and many others. The park is owned by Marion County and yet is leased to a concessionnaire by the name of Jim Evans. Evans, a promoter for seven years and a professional rider for seven years, is responsible for all the activities and promotions of the park.

The park program at the Iowa facility has been very successful over the last year. There have been many requests by people of the state to provide additional facilities throughout the State of Iowa.

One of the major accomplishments which pleases state officials is that now there is a total cooperative effort between the community, the adjoining farm landowners, and the park users. Because of a controlled atmosphere, vandalism of crops through controlled riding has diminished, revenue is generated for city officials through tourist attraction-type activities, and a beautiful facility has been developed for those who enjoy off-road riding.

THE MOTORIZED USER'S PERSPECTIVE ON CHANGING DISPERSED RECREATION OPPORTUNITIES by Garrell E. Nicholes

It is always exciting to speak before a diversified group such as this, and tell them who the off-road highway trailbiker is, and how to best plan for his needs and expectations as he relates to the environment and other resource users. First, however, I would like to present you with a brief scenario of what I perceive recreation to be. It goes like this.

A family sits quietly at the end of a trail in a beautiful canyon, listening to the sounds around them, as the sun settles in the western sky. A gentle
wind begins to stir, rustling leaves and blowing puffs of dust up along the well-used trail. The mother turns to her child and says softly, "What do you hear?" "Mommy, it sounds like a secret," the young child answers, her eyes wide with the beauty of the moment. Indeed, parent and child had found a secret, the secret of a peaceful fulfillment. It is a secret that in many ways is difficult to find. Recreation in the out-of-doors plays an important role in the lives of individuals and families. Millions of dollars are spent and hundreds of miles are traveled each year searching for the secret. Some travel only into a nearby picnic area for an evening of relaxation. Others plan months in advance, and spend days in search of this elusive secret. Some, unfortunately, never find the key to opening the door to this moment. They flit from one activity to another, trying to go along with the latest fad, buy the most up-to-date equipment, and select the perfect spot.

One way to describe recreation is to say that it is the sharp contrast between furious activity and contented relaxation. I guess what I've tried to say is that recreation is a highly individual way of living for most people. Some select backpacking as their thing. Others choose boating, horseback riding, exploring, camping, or eating.

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Mr. Nicholes has been a member of the Utah Governor's Blue Ribbon Antiquities Committee and is now a trustee of the Museum of Natural History of the State of Utah. He has traveled over 300,000 miles to meet with Canadian and United States federal, state, and provincial government representatives on ORV matters. He has established logistics for over 250 recreation oriented seminar/workshops with at least 75 of these meetings having been ORV oriented. Mr. Nicholes' orientation advocates neither extremes of non-motorized or motorized recreation but has helped bring federal, state, non-ORV-owners, and enthusiasts together to talk about motorized vehicle problem/solutions.

Because information is the key to planning, let's ask some meaningful questions and make some observations. How do recreationists participate in their sport? Many of us participate either actively, or passively. Why do recreationists choose a particular activity as their sport? Because of three primary motivators: sociological experiences, psychological encounters, and physical aptitude which puts us into a positive environment. We all enjoy doing what gives us a feeling of success or well-being. Because of the three motivators, recreation becomes very personal and unique for most participants as they pursue their chosen recreation. Let me give you an example. Look at the activity of boating. It can be motorized for fishing. It can take you exciting places. It can be quiet sailing. It can be a rafting
experience down a river, or kayaking in whitewater. Let's take a look at skiing. The individual can be a down-hill skier, and be very "purist" in that, or he can be a cross-country skier, and also be very "purist" and specialized in that.

It is easy to understand the meaning of the statement that "recreation is different things to many people," which now leads me to my subject "the motorized user's perspective on changing dispersed recreation opportunities." As you well know, this is a very emotional subject between users and non-users alike. I have found during my 15 years of planning involvement for these vehicles, that three basic factors contribute to the evident emotionalism and bad image that we see today. They are: no standardized base of definitions, poor inner-intra communications, and a stereotyped image leading to unrealistic attitudes and actions toward the vehicle and its operator by the uninformed.

Let's read what one state's comprehensive outdoor recreation plan says about ORVs. As a summation of current thought it states: "ORV use is increasing, ORVS are controversial, their legitimacy is still debated, and there is a need for providing opportunities, but the needs must be evaluated. Planning to accommodate this recreation is necessary." The issues of ORV use were described as, "excessive use can cause resource damage, noise is a serious problem, illegal and unmanaged use is causing damage to public and private land, few public agencies are providing opportunities and because of this there are few places to go, much activity today is illegal, and failing to provide will compound current environment and social problems." Suggested programs, policies, and objectives listed were, "proper planning and management is necessary, use areas and trails should be provided and all levels of government are encouraged to consider providing these facilities, and roles of state, federal, local, and private solution opportunities should be clarified."

The resulting questions are, "If the public and private sectors want to do something, how do they start?" "What direction do they take and what goals do they anticipate reaching?" To help us clarify the magnitude of these questions, let's first look at the State of Utah's trailbiking statistics for 1977. The annual ORV/OHV economic value was $38,657,000. Total ORV/OHVs sold through 1977 were 63,400 units, which is about 75 percent of the total on-off road vehicles in this state. The penetration per 100 population is 6.8, fourth highest in the U. S.

What is an off-road or off-highway vehicle? It is any vehicle that does not have to follow a pathway, but can be operated in an unstructured way on a resource. There are a number of ways that the enthusiast utilizes the motorcycle in achieving different recreational experiences.

Who is the enthusiast?

- The person who is learning to operate the vehicle.
- The play experience, or an unstructured competition experience allowing the individual to use the vehicle to produce the recreation in and of itself.
- Structured competition which enables the participant, after he masters the physical and mental requirements to commit totally to that activity.
The last area of participation is the individual who uses the vehicle as a tool of transportation to participate in other recreation activities, such as camping, picnicking, fishing, photography, cultural sightseeing, riding for pleasure, and many more opportunities, in fact, over 300 identified to date.

While we were recently doing a statewide ORV/OHV study, it was brought to our attention just who the user was. While this may or may not apply to a particular area, I would like to pass it on to you, because I think in many instances there might be some parallels. The user profile as we found it was

- They belong to a middle-class family for income.
- Twenty percent of them hold college degrees.
- They enjoy the out-of-doors as participant recreators in skiing, backpacking, fishing, etc.
- They are between the ages of 25 and 45 years old.
- They are married and have children old enough to ride.
- They are independent recreationists and usually did not join clubs, nor attend public meetings.
- They rode 60 to 100 miles per day on their trail outings.

They identified their problems to be

- Former riding areas have been closed with no new alternatives being provided.
- No visible OHV programs or facilities are being developed by federal, state, county, or community governments.
- They experience major communication gaps with federal and local land planning and management agencies.
- They cite inconsistent ORV policies as a major part of their problems.
- Non-participants inaccurately perceive ORV/OHV impacts; they feel it's more emotional perceptions than actual.

Now that I have given you all this information, what recommendations can I offer to solve some of the existing problems?

- Research, planning, implementation,
and management should focus in on a goal-oriented program. This program could take the format of determining what particular problems ORV/ OHVs create for you.

- Systematically categorize the problem areas and develop credible information to problem-solve those areas where solutions are needed. The method that has successfully worked for me is:

  Identify actual environmental conflict such as noise, soil erosion, impact on plants and animals, law enforcement, etc. (Actual is the key word.)

  Track down conflicts with resource users and other recreationists, e.g., livestock operations, mine and timber companies, and others (actual conflicts).

  Investigate safety and other educational programs that can be provided for the participant.

Further information that needs to become a part of your plan might include asking the questions

- Who are the motorized recreationists and how are they participating in their sport? (Are they just learning, playing, involved in competition, or are they using machines for recreational transportation?) Develop percentages.

- Where are they now going to pursue their sport? This can be answered through an inventory process of use areas and trails of significant use.

- Do you speak the same ORV language? (Among you and within your agency, with the user, and with the non-user?)

- How can this information be found and formulated into a productive statewide implementation model?

In answering this question, a statewide seminar workshop can be implemented to establish goals which could

- Set a base of definitions for communication and cooperative purposes.

- Provide access to current information.

- Uncover technical assistance resources.

- Clarify federal and state programs and where money can be located to help implement problem identification/solution opportunities.

- Establish long-range communication lines among federal, state, community, user, non-user, and private industry attendees.

- Circulate a seminar summary for future reference.

Another element of the plan would be to establish standards and investigate and formulate legislation to
• Identify and assign roles to a lead agency.

• Establish definitions of ORV/OHVs.

• Provide management direction.

• Create safety, environment, and resource user conflict education opportunities.

• Supply program financing.

• Make available enforcement capability.

In order to provide information for the planning process, it would be necessary to initiate a statewide resource inventory. This would be an inventory of existing areas of significant use throughout the state. This information would then need to be combined with demand study information. This material would result as a part of a methodology that would be expanded from public meeting information that has been developed. A statewide user/non-user educational program should be promoted to address responsible machine handling, safety, environmental, and resource user conflicts.

**Implementation projects** can be developed to include (based on information findings)

• Youth play areas in an urban environment.

• Urban play in an unstructured competition practice area.

• Regional competition areas.

• The establishment of a coordinated trail system throughout the state.

Often the user is overlooked as a resource person. They should be involved whenever possible in gathering meaningful research information.

• All interested groups should also be brought together to communicate their input, on a planning level as to what the model statewide plan intends to accomplish and what they can contribute to it.

• Set up recognized user advisory teams to work out problem solutions and utilize them in facility development, trail maintenance and cleanup programs.

In summary, there needs to be

• An acceptance of the ORV/OHV as a legitimate form of recreation that needs responsible attention in research, planning, implementation, and management.

• Establishment of basic ORV/OHV definitions for communication purposes.

• Identification of actual problems, gather credible problem/solution information.

• People working together for constructive resource and social solutions.
- Realistic legislation.
- Education for users and non-users in the responsible recreation uses of the vehicle.
- Initiation of implementation projects and meaningful involvement of users.

"There are thousands of men in our cities to whom an annual sojourn to the wilderness would bring a renewal of all their powers and a vast increase of all their energies. The overworked student and professor in our colleges, the clerks in our stores, and every man whose habits or occupation puts a heavy strain on his body and mind, should visit this region."

(William Henry Harrison Murray, New York Daily Tribune, 1869.)

Today hasn't changed this thought. Thank you very much for this opportunity to be with you.