

Victor Zafra, are ultimately making decisions about what NIH is going to do. At the very least, they think that O'Neill should be directly involved every step of the way, and they are not happy about having their point of view filtered through Stone and Zafra, who also lacks academic credentials in science. In short, senior NIH scientists resent the fact that individuals whom they sometimes refer to as "just a couple of young kids" can tell them what to do.

Staffers at OMB like to play it down, but the truth is that their influence on the activities of anyone who works for the government is tremendous. The OMB's control of the budget is only one aspect of its power. It also controls legislation that the Administration proposes in order to be sure it is in

line with what the President wants. If, for example, HEW were to draw up a bill for more work in population studies, and the OMB were to decide that it did not fit Presidential policy, there would be no bill.

In the same way, OMB controls what government officials say when they go before Congress to testify on pending legislation. For instance, Charles Edwards, the assistant secretary of HEW for health, is asked to appear to testify on a bill dealing with federal support of research. He prepares a statement and sends it over to OMB. There, it is read and circulated to the heads of any agencies other than HEW that might be affected by the legislation. If there are disagreements, O'Neill might call everyone together to iron them out. If the problems cannot be solved,

the testimony might be sent over to the White House for a decision. But whatever happens, neither Edwards, nor the director of NIH, nor anyone else can testify unless OMB OK's his statement. It is not uncommon for someone to find himself publicly saying the opposite of what he thinks because he lost a battle with OMB.

It is fine for O'Neill to say, as he did at the Institute of Medicine meeting, "I'm disappointed in scientists for not standing up for their point of view when it differs from the party line." It is fine, that is, as long as they do not work for the government. Government scientists who swerve from the party line laid down by the OMB can find themselves in trouble. Such is the power of the Office of Management and Budget.—BARBARA J. CULLITON

Off-Road Vehicles: A Compromise Plan for the California Desert

The federal Bureau of Land Management (BLM), a small agency with a vaguely defined mission and weak authority, has been coming to generous terms with off-road vehicle (ORV) enthusiasts in Southern California, many of whom engage in practices and observances as bizarre as those of any people on earth.

The BLM is responsible for managing the use of most of the vast Mojave or California Desert, which lies on the other side of the San Gabriel and San Bernardino mountains from Los Angeles. The ORV people, among whom the motorcyclists devoted to competitive racing are a highly visible and important element, have until recently been free to use the BLM lands as they pleased. Not until September 1972 did the BLM even begin requiring the organizers of competitive events to obtain special land use permits. During the ensuing 12 months, there were 151 such events, involving more than 67,000 participants and 189,000 spectators.

The ORV interim management plan promulgated by the BLM on 1 November, however, is supposed to limit use

of ORV's significantly, with only about one-eighth of the BLM lands now to be open to unrestricted use. But many questions have been raised by environmentalists about the liberality of the plan and about the feasibility of enforcement.

Further, one might infer from the plan that the "multiple use" philosophy to which the BLM adheres is so broadly inclusive that room can be found even for activities which admittedly are dangerous and destructive, to say nothing of their being a startling incongruity on the desert scene.

The California Desert covers some 17 million acres, or 25,000 square miles, and reaches from the southern Sierra Nevadas to the Colorado River. The desert terrain is varied and often rough. There are broad, smoothly floored basins and salt flats, sand dunes, rugged hills, and steep mountains. Rainfall is scant (less than 5 inches a year), summers are hot, and winter days are usually mild. Widely spaced low shrubs, especially creosote bushes and burro-weed, grow in the basins. Cactus is found on rocky, southward-facing

slopes, and in some areas the unusual Joshua tree is abundant. Certain very rare botanical specimens have been discovered, as in the case of a stand of crucifixion thorn, a plant otherwise found only in Israel.

The desert harbors a surprisingly diverse animal life, there being 50 species of reptiles, some 170 species of birds, and more than 80 kinds of mammals, including bighorn sheep. Significant archeological treasures, including the pictographs and petroglyphs of early Indians, also have been discovered. The California Desert is, in sum, a place of much scientific interest and beauty.

But, as BLM spokesmen like to say, the desert is regarded by 11 million Southern Californians as "their own backyard." With most of it being part of the unreserved public domain, this region has been open to increasingly heavy recreational use. Gordon W. Flint, information officer at BLM's Riverside office, says that, whereas there were 4.8 million visitor-days of use in 1968, the total in 1973 came to 13 million.

In Flint's view, the desert represents freedom for millions of people seeking a weekend respite from humdrum jobs and an escape from the urban environment. Yet, as the available information on ORV use and ownership in California makes all too clear, many of these people are not seeking quiet and solitude. Indeed, if Henry David Thoreau were suddenly to appear before them, he might be flattened by one of their machines.

According to the BLM, there are an estimated 1 million motorcycles owned by Californians strictly for off-road use. By far the greatest use of these machines is believed to be in the California Desert. Dune buggies are said to number perhaps 200,000, and, on the basis of aerial surveys, BLM is persuaded that on some weekends there have been as many as 5000 on the desert at one time. There may be as many as half a million four-wheel-drive (4WD) vehicles in California, and, again, their greatest use is in the desert.

No blanket categorization of the ORV user will fit, because all sorts of people use these machines, including Sierra Club members (of whom there are some 35,000 in Southern California), students of desert biology, and other environmentalists. The important consideration is how the machines are used. According to Harriet Allen, a former biology teacher and a leader of the Sierra Club's Southern California Regional Conservation Committee, club members using jeeps or other ORV's in the desert always go on foot to reach points to which there is no established road or trail.

On the other hand, there are other 4WD users who, to be both venturesome and gregarious at one and the same time, will sometimes form "safari's" of up to 500 vehicles. The safari's stick to existing roads and trails for the most part, but when one of them is seized by an urge to strike out across country, great damage to soils, vegetation, and animal habitats can result.

Most of the motorcycling in the desert is done by young people (the average age is said to be 25) who are not participating in organized competitive events and who, for the most part, are riding existing roads and trails. The question of what is a trail can be a difficult one, however. A few cyclists passing through a previously undisturbed area can readily make a trail which, even if not used again, may not disappear for years. And the plain fact is that there has been, and there will almost surely continue to be, a great amount of promiscuous breaking of new trails.

Although those motorcyclists who participate in organized racing events are a minority of the cyclists using the desert, their activities are of such scale and intensity as to have great impact. The least damaging event environmentally is the "enduro," because in it the riders are started at intervals on a



This BLM photograph of a race in the California Desert originally appeared in the 1970 report of the Public Land Law Review Commission with the caption, "Motorcycle racing can grind a desert range to pulp."

course over varied terrain and following existing roads and trails. Their objective is to reach each of a series of checkpoints according to a precise schedule; points are lost for either early or late arrival. The enduros are less popular, however, than the "scramble" events, in which the riders compete to lead the pack.

The most extraordinary of the scramble races is the "hare and hound" run each Thanksgiving weekend over a 160-mile course between Barstow, California, and Las Vegas, Nevada. This event is a high point of the racing enthusiast's year. The roads leading out of Los Angeles are crowded even more than usual with the campers and vans of cyclists heading for a noisy retreat in the desert.

A large crowd of spectators, numbering several thousand, gathers back of the starting point, where the riders have lined up flank-to-flank for as much as a mile. More than 3000 cyclists competed in this past Thanksgiving's hare and hound—so many that they had to be started in two

separate waves. Just the gathering of such a large number of riders and spectators results in the trampling of vegetation over a wide area.

Traveling across rough country at breakneck speed is obviously dangerous. Each year some racers are killed and many suffer broken arms or legs or other injuries. In 1972, 16 persons died in ORV accidents in the desert, and 1183 suffered serious injury.

Competitive racing is as destructive to the desert as it is dangerous for the riders. One day last April, for example, some 700 riders zipped through a part of the desert that the BLM has since closed to ORV's and designated a tortoise preserve. All vegetation along a strip 3 miles long and from 3 to 6 feet wide was crushed. According to scientists at the Museum of Vertebrate Zoology at the University of California at Berkeley, the creosote bush habitat destroyed in this one race will not recover during this century.

In late September, in a letter commenting on a preliminary draft of the BLM management plan for use of

Fredrickson Says Yes . . .

After thinking it over for two and a half months, Donald Sharp Fredrickson has decided to say yes, he will accept the presidency of the Institute of Medicine of the National Academy of Sciences.

With reference to the array of issues relating to health care in the United States, Fredrickson says, "There has to be a place for analysis not suspect of special interests. I believe the Institute of Medicine's mission is to do this and I think it can do it well." He emphasizes that his move to the institute from the National Heart and Lung Institute is a positive one and that he is not leaving the National Institutes of Health as a protest of any sort.—B.J.C.

. . . Hosmer Says No

Representative Craig R. Hosmer (R-Calif.), one of the staunchest congressional champions of nuclear energy over the past two decades, has decided not to seek election to a 12th term in the House. In a brief announcement on 22 January, Hosmer gave no specific reasons for retiring, but he indicated that his decision stemmed in part from a recent ruling of the California Supreme Court redrawing the boundaries of his conservative Long Beach-Orange County district. The realignment returns to Hosmer some mostly Democratic territory excised from his district in 1968.

A 22-year veteran of Congress, Hosmer is an attorney (employed in the late 1940's by the Atomic Energy Commission) and a rear admiral in the Naval reserve. He is the senior Republican House member of the Joint Committee on Atomic Energy and ranking Republican on the House Interior Committee. Over the years, the latter job was almost incidental to his first love: the advancement of nuclear energy and most particularly of the liquid-metal fast breeder reactor. Respected by fellow members as an expert on all things nuclear, Hosmer has exhibited little patience with critics of the AEC and the nuclear industry.

Hosmer, who is 58, says he has no intention of retiring from work altogether. He is the 12th House Republican to bow out of next November's election.—R.G.

ORV's in the desert, the museum staff said the effect of ORV's on soils and plant and animal life was such that these machines represented a "Frankenstein monster." The scientists said that even the purity of the desert air was threatened, this from the billowing clouds of dust stirred up by ORV's. Believing that the proposed management plan was far too liberal, they contended that "a major educational and policing program should be launched as soon as possible to prevent further increases in [ORV] use on public lands and to begin to roll back present levels of use."

"We feel that an accommodating stance will only compound the problems we now face and, in fact, represent a virtual victory for the destructive forces of the ORV's," the scientists added. They recommended that off-

road use of vehicles be confined to those areas already damaged beyond recovery, with no predominantly wild area open to ORV's unless justified on the basis of a carefully prepared environmental impact statement.

Generally, the museum staff held, ORV's should not be allowed on trails, but only on paved or maintained dirt roads, because policing the trails is at present manifestly impossible. Some 90 enforcement people are needed in the desert, BLM people say, against the seven actually available (this number will soon be increased, but not by nearly enough). Furthermore, the BLM, still without an organic act spelling out its mission and powers after all these years (the BLM, as such, was established in 1946), lacks the legal authority for direct enforcement of its land use plans.

The desert management plan was criticized as far too liberal by not only the museum staff, but also by the Sierra Club and certain other groups such as the Desert Protective Council. Nevertheless, the interim plan finally promulgated in November was not very different from what had first been proposed. Its basic elements are these:

- Sixteen areas have been closed to recreational ORV use altogether, their total acreage representing about 4 percent of the 12 million acres of desert land under BLM jurisdiction.

- Thirteen areas are open to virtually unrestricted use, and these, together with the roadside strips open to ORV's, take in about 12 percent of all BLM desert land. In general, the "open" areas have already seen ORV use, but some include many thousands of acres still relatively undisturbed.

- The remainder of the BLM land is open to limited use, with ORV's allowed on *all* existing roads and trails in some areas and on *designated* roads and trails in others.

- In addition to the open and restricted use areas, several routes were designated for cross-country racing.

This plan was developed in keeping with a presidential Executive order of February 1972 pertaining to the use of ORV's on the public lands and with general regulations since proposed by Secretary of the Interior Rogers C. B. Morton. The essence of the government's policy is that recreational use of ORV's on public lands is legitimate, provided that conflict with other activities and with the preservation of resources is "minimized."

In the Department of the Interior's impact statement on the Secretary's proposed regulations, one finds the following observation: "In essence, growth of public interest in ORV use has outstripped easy control of controversial impacts. The current thrust will be to alleviate this controversy by providing space for users and space for nonusers and protection of the natural legacies several Interior bureaus are charged with."

In effect, what this suggests is that it is too late to deal with the ORV question in a truly rational way and that the best that can be done is to work out a compromise. But what might a rational solution be?

The BLM view is that, if its management plan were redrawn to confine ORV's largely to established roads and certain designated trails, many ORV people would simply ignore it. Further,

one is told that, given the BLM's lack of direct enforcement authority and its undermanned desert staff, the agency could do little about such a flouting of its rules, whatever the justification for them.

Yet enforcement of the liberal plan that has been promulgated will not be easy either. The law of trespass is the principal enforcement tool the BLM has at its command, and this law actually would be easier to apply if ORV users were generally confined to roads and a relatively small number of trails.

The BLM itself acknowledges that protection of the resources of the desert requires a planning effort more ambitious than the one that produced the existing "interim" plan. Pending completion of the final plan (conceded to be some years away), ORV's will be doing serious and irreversible damage. This lends weight to the environmentalists' argument that, by opening some parts of the desert to unrestricted ORV use without first preparing a detailed impact statement, the BLM has violated the National Environmental Policy Act. Leaders of the Sierra Club in Southern California, together with those of some other groups, have been considering bringing suit on this very point. (The only litigation now pending is a suit brought by the California Association of Four-Wheel Drive Clubs, Inc., which wants still *more* of the desert open to ORV's.)

Users of ORV's would be hard put to show that they have a "right" to venture willy-nilly over tens of thousands of acres of desert (several of the open areas cover 50,000 acres or more), regardless of the environmental effects. An extensive network of back roads is available in the desert for the ORV users to explore.

And, as for the motorcyclists bent on competitive racing, a decision to close most of the desert would not force them to abandon their sport and turn to quiet pursuits such as fly fishing or knocking around in the world of books. "Motocross" is the most common form of off-road motorcycle racing done in the United States, this being an event conducted on a closed course about 1½ miles long over natural terrain, with the cyclists circling the course repeatedly in 30-minute heats. If the BLM were to set aside a few areas for motocross events and close the rest of the desert to competitive racing, the cyclists could risk their necks without further damage to public lands.—LUTHER J. CARTER

RECENT DEATHS

Charlotte Baer, 65; clinical professor of medicine, University of California, San Francisco; 15 August.

Earl W. Bennett, 93; honorary chairman, Dow Chemical Company; 19 September.

Bacon F. Chow, 63; professor of biochemistry, School of Hygiene and Public Health, Johns Hopkins University; 27 September.

Horace D. Crockford, 74; former professor of chemistry, University of North Carolina; 16 August.

George G. Deaver, 83; former chairman, physical medicine and rehabilitation department, New York University; 10 September.

Harry H. Epstein, 66; professor of clinical medicine, State University of New York, Stony Brook; 3 October.

Solon A. Gordon, 57; senior plant physiologist, biological and medical research division, Argonne National Laboratory; 5 October.

Julius T. Hansen, 51; research physiologist, Central Intelligence Agency; 12 September.

Howard J. Kenna, 71; former president, University of Portland; 13 September.

Jerzy Konorski, 69; director, Nencki Institute of Experimental Biology, Poland; 14 September.

Thomas Lauritsen, 57; professor of nuclear physics, California Institute of Technology; 16 October.

Charles C. Peters, 91; professor emeritus of education, Pennsylvania State University; 26 October.

Gregory Razran, 72; professor emeritus of psychology, Queens College, City University of New York; 31 August.

Erwin D. Smigel, 55; professor of sociology, New York University; 30 August.

Harold Smookler, 38; professor of pharmacology, University of Pittsburgh; 23 August.

Willis L. Tressler, 69; former associate professor of zoology, University of Maryland; 9 September.

S. Rains Wallace, 59; chairman, psychology department, Ohio State University; 28 August.

Ralph H. Weaver, 70; professor emeritus of microbiology, University of Kentucky; 25 September.

William W. Wurster, 77; former dean, College of Environmental Design, University of California, Berkeley; 19 September.

APPOINTMENTS

William K. Reilly, executive director, Task Force on Land Use and Urban Growth Policy, to president, Conservation Foundation. . . . **Billy M. Jones**, president, Southwest Texas State University, to president, Memphis State University. . . . **Lloyd I. Watkins**, president, Iowa Association of Private Colleges and Universities, to president, West Texas State University. . . . **Phillip S. Kaplan**, vice president for academic affairs, University of New Haven, to president of the university. . . . **Robert H. Anderson**, professor of elementary education, Harvard University, to dean, College of Education, Texas Tech University. . . . **Gary A. Zimmerman**, associate professor of chemistry, Seattle University, to dean, School of Science and Engineering at the university. . . . **David D. Gale**, chairman of life and health sciences, Harper College, to dean of allied health programs, Eastern Kentucky University. . . . **Arthur H. Keeney**, ophthalmologist-in-chief, Wills Eye Hospital, Pa., to dean, School of Medicine, University of Louisville. . . . **Walter D. Wales**, professor of physics, University of Pennsylvania, to chairman, physics department at the university. . . . **Vangeapuram Lakshmikanthan**, chairman, mathematics department, University of Rhode Island, to chairman, mathematics department, University of Texas, Arlington. . . . **William H. Caldwell**, associate professor of mathematics, University of South Carolina, to chairman, mathematical sciences department, University of North Florida. . . . **Carolyn J. Zinn**, former director, West Virginia Department of Archives and History, to chairwoman of political science, geography, and sociology, Arkansas State University. . . . **John W. Nelson**, professor of neurology, Medical College of Wisconsin, to chairman, neurology department, University of Oklahoma. . . . **Gerald S. Laros**, associate professor of orthopedics, University of Arkansas, to chairman, orthopedic surgery department, University of Chicago. . . . **Robert G. Hering**, chairman, mechanical engineering department, University of Iowa, to dean, College of Engineering at the university. . . . **Gordon H. Geiger**, professor of metallurgical engineering, University of Illinois, to chairman, metallurgical engineering department, University of Arizona.