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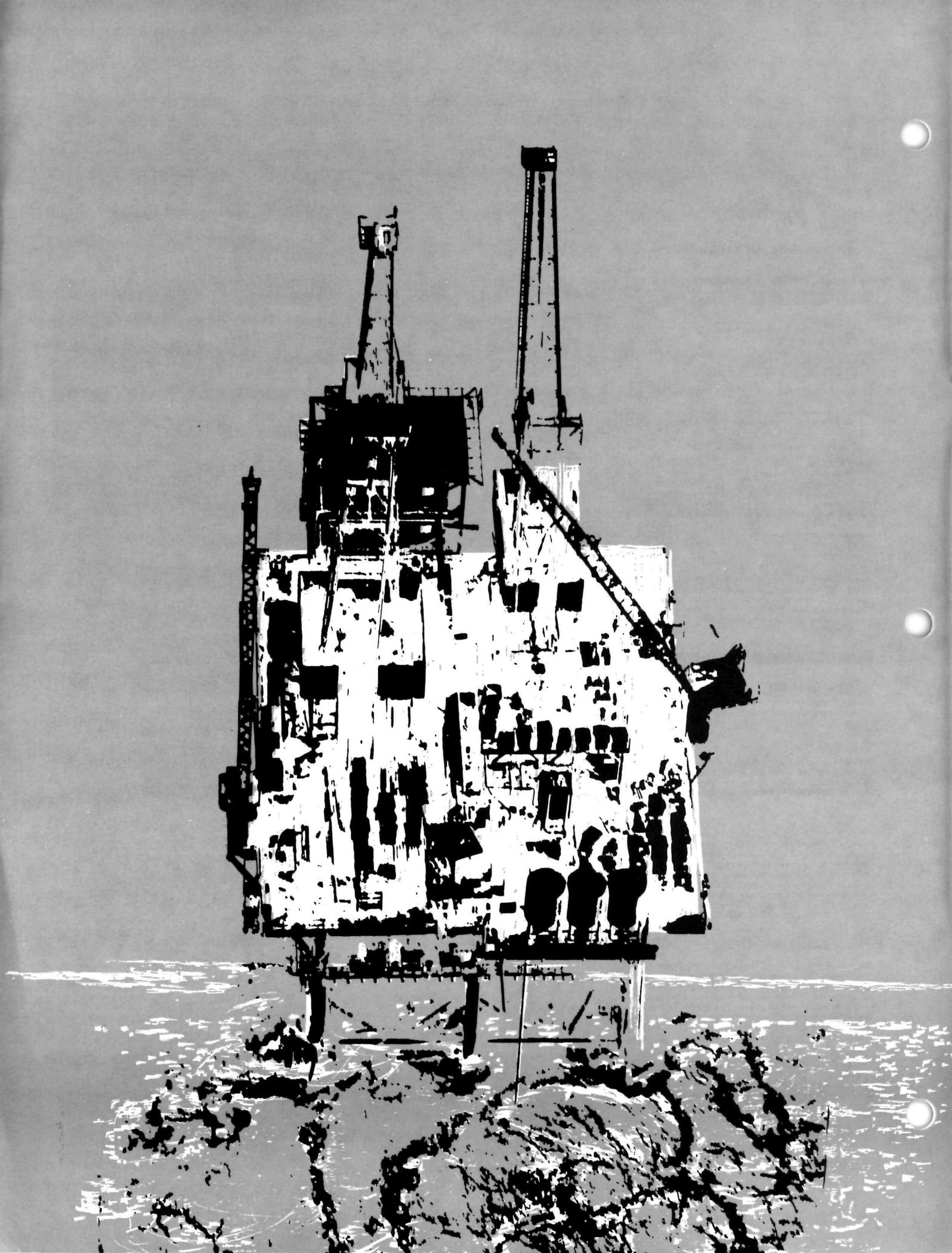
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oil Pollution

"We can't sail anywhere in the Atlantic without finding oil"

By Ira N. Gabrielson

Reprinted from National Parks Magazine, March 1970

The environment always has been trampled under in the rush for mineral resources as valuable as oil. In the past, damage from oil exploration, though often extensive, has tended to be confined to the locality of the industry. Modern oil industry practices, however, are changing the picture drastically. Oil is produced more and more from the ocean floor, it is carried by giant tankers, and its refined products fuel nearly all the ships afloat—a combination that now is polluting the seas.

For many years during residence on the Pacific Coast, another ornithologist and I took advantage of every opportunity to walk the beaches of Oregon, mostly in Lincoln and Tillamook Counties and less frequently in the more southern counties. We were studying birds and bird movements and made notes on all the birds we saw, including the dead ones found along the beaches.

There were few occasions over the 17 years that we lived there when we did not find oil-soaked and dead or dying birds. This amounted to only a few birds in some instances and to many thousands in others. Obviously even in those days oil was taking a steady toll of bird life. From what we know now, it also was killing or harming other animal and plant life of the ocean environment. We had no information as to where and how this oil originated, but we assumed from information given us by Navy friends that it came from the bilges of ships plying the Oregon coast.

It is obvious from this experience and those of many other ornithologists of my acquaintance that spilled oil, no matter its source, is taking a constant toll of bird life, particularly among the oceanic birds. We saw more of it along the Pacific Coast because we spent more time on the beaches there. During our studies we also found dead fur seals and fish. Some were covered with oil, but we had no way of proving what killed them.

There is no doubt in my mind that the problem is more acute today—all the legislation, safeguards, and agreements notwithstanding—simply because there are more ships plying the oceans; more underwater oil exploration and recovery; more refineries and terminals; and more of everything that accidentally or deliberately introduces oil into the aquatic environment.

Not long ago, a senior biologist at the Woods Hole Oceanographic Institution reported that "Just in the past few years we are finding we can't sail anywhere in the Atlantic—even a thousand miles from land—without finding oil."

Spilled oil is taking a constant toll of bird life

During the course of our early studies of Oregon bird life, we found specimens of practically every sea bird that is even occasionally found along that beautiful coast. If my memory serves me correctly, for example,

the first records of a red-legged kittiwake south of the Aleutian Islands was an oil-soaked bird picked up on the Oregon coast. It now is a specimen at the Patuxent Wildlife Research Center of the U.S. Bureau of Sport Fisheries and Wildlife.

Not only did we find birds such as murre, puffins, auklets, gulls, cormorants, shearwaters, and others that had become victims of oil spills, but we found numerous ducks, mostly of the diving species, although I also recall picking up a few mallards and pintails. I have seen few birds affected by oil spills on land, but I have seen some, particularly in Texas.



None of the kills of birds I experienced along the Oregon coast occurred as a result of any spectacular disasters such as have filled the headlines in recent years. As damaging and as unfortunate as the major accidents are, I believe the industry will agree that oil slicks arising from the bilges and the ballasted fuel tanks of ocean vessels are the most serious offenders today. Oil comes, too, from wrecks and accidents, mechanical failures, and from careless handling at manufacturing plants, refineries, and terminals. All in all, a Woods Hole scientist has estimated that oil spills total at least 1,000,000 metric tons a year and perhaps much more.

The Torrey Canyon affair and the Santa Barbara oil spill greatly heightened public concern about the handling of oil. Those two incidents gave massive and visual proof of the direct impact of oil on the environment. I believe the public will remain sensitive to the problem and that the oil industry will be operating in more of a fishbowl than ever before. The industry is aware, I believe, that various aspects of the problem are attracting the attention of more and more well-qualified specialists in the environmental disciplines. We are only at the entering stages of understanding this whole problem.

Right now, there is national concern about the possible adverse effects of the development of oil on Alaska's Arctic coast. The Department of the Interior has issued stringent stipulations regarding the construction of the proposed 800-mile pipeline from Prudhoe Bay to Valdez, but it is not asking Congress for enough money to adequately police and inspect the project to see that the stipulations are obeyed. Apparently, the State of Alaska is even less concerned about what happens on its lands that are involved in the oil activity. Many conservationists have visited the area, and every one of them with whom I have talked has been very critical of the way in which the tundra is being manhandled.

I know that the oil companies fly newsmen and other writers up there to give them a firsthand look. The hope, of course, is that the industry's side of the story will get into the news. My staff has been contacted by some of these newsmen, and we find that they use a key phrase voiced so much by our friends in the oil industry. "The tundra is a wasteland," they argue, "so why does it matter what happens there?" That one point, I submit, is symptomatic of the larger environmental issue in which the oil industry finds itself involved.

Bureau of Sport Fisheries & Wildlife, U.S. Dept. of the Interior



Oil affects birds in several ways. It clots their feathers and weighs them down, interfering with their ability to fly. It destroys the natural buoyancy of the body feathers of swimming birds so they cannot swim and feed; likewise it destroys the feathers' insulating value. Therefore, oiled birds may die from exposure and starvation. Birds may swallow oil during the process of preening, and this ingested oil may lead to poisoning, though little is known of this aspect. Finally, even if birds do not come in direct contact with oil, it may destroy or overlie the lower marine life on which they feed.

That point is that engineers and bulldozer operators are not qualified to pass judgment on whether an area is a "wasteland" or of little or no moment in the overall scheme of things. They are not the ones to pass final judgment on the relationship of their activities to the environment. They may understand the physical relationships, but they do not know the ecological ones. They can converse knowingly about cubic yards and pumping capacities, but they know little or nothing about hydrocarbon concentration in aquatic organisms,

the insulation shield of tundra vegetation, or any other of the complex environmental relationships.

The tundra lichen is one of the staple foods of the caribou, and the various species of berries that grow and ripen on the tundra provide much food for great populations of birds that nest there. This vegetation is slow growing, and many studies have indicated that lichens, for example, take 40 years or more for rehabilitation once destroyed. Destruction of this fragile vegetation is equivalent to destroying a forest area farther south on the continent.

Now, the oil industry can do a good job and has done a good job in a number of places that I have been shown. It can develop wells without defacing the countryside and without destroying the vegetation. It undoubtedly costs more to operate this way, but industry will be paying more and more to conduct its operations within the limitations of environment. Business leaders now state publicly that effective environment protection—and I emphasize effective, long-term protection as opposed to public relations demonstrations—will be a paramount factor in deciding public acceptability in the future. It is my experience that the oil industry needs to be more uniformly responsive to this point of view.

In Alaska, I hope that the federal and state governments and the industry

will achieve new breakthroughs in positive actions to protect the environment. It no longer is adequate to say only that the state needs the revenues that will be generated or that the country will benefit generally from the discovery and extraction of Arctic oil, if the whole activity is undertaken in such a way as to seriously impair the environment of that largely unspoiled land. Industry still has to prove that it can explore for and remove the oil in such a way as to make the least inroads on the environmental factors involved.

In fact, this is the challenge facing the industry everywhere—not just in Alaska, but everywhere it now operates and where it may be operating in the future. Americans, as well as residents of some other of the

world's developed nations, are environment-conscious. Today, more than ever before, people are acutely aware of the massive threat to the environment from the expansion of population and all that it entails. They are calling on their governments for the kinds of laws and regulations that will safeguard the environment from further deterioration. There is not the least question in my mind that we are only at the early stages of this awareness in the United States. Environmental matters will be receiving more and more consideration. These new considerations are going to require new investments and the discovery and use of new techniques. The oil industry prides itself on innovation and technological advancement. It knows that something is not necessarily right because of its practice or utility in the past. It is time that the industry embraces these environmental considerations in a more meaningful way.

Because of the extent and nature of its activities, the oil industry will feel this pressure for environmental awareness more sharply than others. More and more, as accessible oil reserves are charted and exploited, the industry is moving into the fragile and sensitive areas of the environment—on the continental shelves and in deep water—where conditions test man's technical knowledge and equipment to the fullest. There is movement, too, into remote areas, like the Arctic, where the forces of nature pose severe tests of men and their equipment. From what we know and have experienced, I believe it is safe to say that the constant threat of accident alone is adequate to keep the industry in a state of ready alert. But the things we do not understand fully or only now are beginning to grasp add greatly to this uncertainty.

In the coastal zone, where tides can move pollutants many miles from their point of introduction, and where the vagaries of nature constantly threaten the permanence of industry's operations, there are many more questions than answers. Operating risks are easily charted, and equipment and procedures are designed to lessen or minimize them. These are the physical sorts of things that are within the realm of the engineers and geologists. But let us consider the biological or environmental problems that are not susceptible to physical approach.

As the Torrey Canyon and the Santa Barbara incidents illustrated—and keep in mind that those two unfortunate incidents are only symbolic of the vastly greater problem of the con-



Oil Pollution—Santa Barbara, Calif.

Photo by Cecil W. Stoughton, U.S. Dept. of the Interior



Santa Barbara Oil Slick

stant pollution of the sea by oil—man lacks positive methods of dealing with oil once an accident has occurred. The usual approach is to try to contain or isolate the floating oil—an attack that works rarely, if at all—or to remove it from the public eye by sweeping it under the ocean's surface by means of detergents or dispersants. More animal life was killed by chemicals used in the Torrey Canyon accident than by the oil itself. Containment failed as an attack at Santa Barbara, and everyone knows the loss that followed when the oil floated ashore.

But let us give some thought to the total aquatic environment, that vast volume under the surface of the sea, where only patient prodding will reveal what may be going on and where currently we have only the sketchiest outline of what happens when hydrocarbon molecules enter the mainstream of the sensitive aquatic community. In the first place, detergents and dispersants are pollutants in themselves. In the volumes in which they may be used, they add much of an alien chemical nature to the aquatic environment. And as in the case of Torrey Canyon where the detergents were dissolved in low-boiling aromatic hydrocarbons—which are poisonous to man and all other organisms—the results can be immediate and catastrophic.

Crude oil and its finished products consist of various hydrocarbon fractions—low-boiling, high-boiling, olefinic—the implications of the introduction of which into the aquatic environment are not fully understood. In weak concentrations, the low-boiling hydrocarbons have been demonstrated to produce anesthesia and

narcosis. At higher concentrations, they produce cell damage and death in many lower forms of marine animals. They also seem to be injurious to the larval and young forms of other marine life. Many of these organisms are at the thresholds of complex marine food chains, whereby larger and more advanced forms feed on and are dependent on the lower forms. Man, of course, is the ultimate beneficiary of marine productivity because he uses sea life for food and other purposes.

The higher boiling hydrocarbons apparently occur naturally in marine life. Although perhaps not directly toxic to exposed animals, they may interfere with nutrition and reception of the chemical clues that are necessary for communication between many marine animals. More research is needed to understand fully these interactions.

Suffice it to say that even if the detergents or dispersants are not toxic in themselves, their use apparently accelerates the exposure of marine life to the toxic hydrocarbons. Some of the hydrocarbon fractions are suspected to having carcinogenic activity. These hydrocarbons are stable and can be retained and concentrated in the marine food cycle as the lesser animals are consumed by those higher up the animal ladder. Some ultimately may end up in man.

These relationships are not known firmly. Only now are they beginning to be suspected. Unknown, too, is the long term impact of dispersed oil on the marine environment itself. Limited research points to abrupt and substantial changes in animal populations. Virtually nothing is

known about the effect of the oil on ocean bottoms, whether it remains in partial suspension, or where it moves.

Sweeping the oil under the ocean's surface is reminiscent of the old proverb, "out of sight, out of mind." It resolves nothing as far as environmental contamination is concerned.

The problem is more profound than just removing the stain from the ocean's surface. We need less enthusiastic claims by industry of miracle chemicals that neutralize or disperse oil slicks, supposedly making them harmless and noninjurious to man's interests. We need less of a defensive and apologetic posture on the part of both government and industry. We need recognition of the fact that the direct and allied activities of the oil industry represent a substantial threat to the environment and that precautions are needed at every stage of the exploration, extraction, and handling of oil. We need less reaction and more cooperation in pushing for research to get the answers that are required. The industry must insist on better cooperation from its own people and from allied operators who have and use petroleum products. The industry had better realize that an indifferent tanker captain, a rednecked bulldozer operator, or a glib public relations specialist can be among its greatest liabilities.

Concerned people—conservationists and industry personnel alike—acting in a spirit of cooperation can stimulate the action needed to overcome a serious problem. Let us work together to find a solution!

Motivations of Wilderness Users

Reprinted from Pulp and Paper
Magazine of Canada
December 19, 1969

by -- William R. Catton, Jr.
University of Washington

F actual data on characteristics and behavior of wilderness users and other forest recreationists provide a basis for inferences about their motivations. Mountain climbing apparently is strongly motivated by uncertainty of success or failure. To a milder degree, similar challenges motivate other wilderness use. Easy access camping appears motivated by desires for freedom from tension, from responsibility for consequences of one's actions, and from parental duties.

Wilderness use results from positive attractions by the natural environment as well as from mere repulsion by urban environments. Campers seek opportunities for social contact with chosen companions, but are also motivated by a quest for privacy which can be gained either from geographic remoteness in back country areas or from adherence to a norm of non-involvement in intensively used campgrounds. Educated, professional, urban-bred users of wilderness tend to be natural-environment differentiators, preservationists, and wildernists. These attitudes may be expected to become even more prevalent.

Motivations are inferential constructs. They cannot be observed. You can observe a man taking his family up a wilderness trail on a summer weekend, but you cannot directly ob-



serve the motivations that cause him to do it. You can begin to infer those motivations in various ways. You might go to his destination, see what the place is like, and infer that he went there in order to be in that kind of place. Or you might watch what he does when he gets there and infer that he went there to have the opportunity to do those things. Or you might go and look at the place he came from and infer that he went into the wilderness to get away from that place. Or you might watch what he does in the place he comes from and infer that he goes into the wilderness to get away from doing those things.

You might ask him some questions, and he might tell you "We like to hike up this trail because..." and you might infer that his words had some casual connection to his non-verbal behavior (Lundberg 1955). But it would be important to realize that without further evidence you couldn't really be sure whether his verbalized reasons motivated his hiking behavior or whether his hiking behavior motivated his verbalized rationalizations (Pareto 1935).

So we need to be tentative in what we say about the motivations of wilderness users, and we need to be as meticulous and precise as we can in stating the observational facts upon which we base our motivational inferences (Catton 1966, pp. 124-154).



Consider, then, some facts from which the process of inference might begin. Most people who engage in wilderness recreation do so in company with other people. Why? Usually it is in the company of just their immediate family, or a small circle of intimate friends, perhaps even a single companion. Why do such groups go into wilderness environments? In recent years the human invasion of the wilderness has been growing exponentially. Why? Among people who go camping at all, there are observable differences between those who usually go to easy access campgrounds and those who penetrate deeply into true wilderness. Specifically, the more education a person has, the more likely he is to go beyond easy access camping and become a back country habitue. What can these differences tell us about motivations?

Two Motivational Extremes

To stake out the boundaries of our inferential process it will be useful to begin by considering two extremes—the ardent mountain climber versus the sedentary camper who takes his family, his dog, his portable radio, his beer-laden ice chest, and parks his trailer in a forest recreation facility within 75 miles of the city in which he lives and works.

The Quest for Uncertainty—Mountaineering has been studied as a way of gaining insight into human play motivation (Emerson, 1968). Why do rules emerge within play? What does the emergence of rules do to the character of play?

Mountain climbing, Emerson says, epitomizes the difficulty in accounting for any form of play in terms of the ordinary instrumental motivation that presumably characterizes the rational activities of the world of work. There are, as he points out, such obvious reasons for not climbing mountains, such as fatigue and danger, and yet people do it in increasing numbers.

Emerson was a member of the American Mount Everest Expedition in 1963 and made sociological studies of his fellow climbers. Over a three-month period he had each member of the expedition record his own impres-

sions and his own reactions to each day's efforts in a research diary. The expedition was attempting to climb Everest from two different approaches—the Southeast Ridge which had been climbed before, and the West Ridge by which the summit had never before been reached. At the end of each day, Emerson had each member of the expedition write down in his diary a subjective estimate of the probability of success by each route. Each climber also wrote down each evening what activities he wanted to perform the next day. Emerson later coded these activity statements in such a way that he could derive from them a measure of task motivation strength.

By comparison of day-to-day variations of an individual's responses, and by comparison of the responses of the West Ridge party and the responses of the conventional Southeast Ridge party, Emerson found that motivation varies directly with uncertainty of outcome. If success seemed highly probable, or if failure seemed highly probable, motivation was reduced; when there was genuine doubt as to whether the party would succeed or fail, then motivation was high.

Still more interesting, he found that the communications between climbers tended to fall into a pattern which had the effect of fostering uncertainty about end results. If success began to seem assured to one climber, others would begin to point out ominous signs. If failure began to seem inevitable, one began to hear his partners asserting grounds for optimism.



The higher the motivation, the greater the tendency for conversations to be so patterned as to maintain uncertainty. In short, there is a self-regulating group process that operates in a mountaineering expedition: uncertainty of success generates motivation, and this leads to interpersonal communication processes which tend to maintain or maximize uncertainty.

The fun obtained from mountain climbing is not in reaching the summit but in carrying on the task in the face of doubt as to whether the summit will be reached or will prove unattainable. If the goal is known to be unattainable, the task ceases to be pleasurable. But if it is a foregone conclusion that the goal will be reached, then, too, the task loses its lustre. The summit of a mountain defines a problem, but the pleasure of climbing lies less in the achieved solution than in the problem-solving process. Emerson goes on to generalize this interpretation to other forms of play, ranging from athletic to intellectual, and argues that motivation toward a goal is highest if the goal outcome is uncertain. This explains, he feels, why first ascents are especially valued: a summit which has never been reached may not be reachable but is not known to be unreachable. A problem which has never yet been solved may not be soluble but it may not be known to be insoluble.

We hasten to add at this point that a mountain which has been climbed, even repeatedly, or a puzzle which has been solved many times, does not thereby lose all its value. It may remain uncertain for any given individual whether he can climb that mountain or solve that puzzle.

Games with clear cut rules may emerge from unregulated play. At least some of the rules perform the function of preserving uncertainty. In mountaineering, for example, climbers shun equipment which makes the climb too easy.

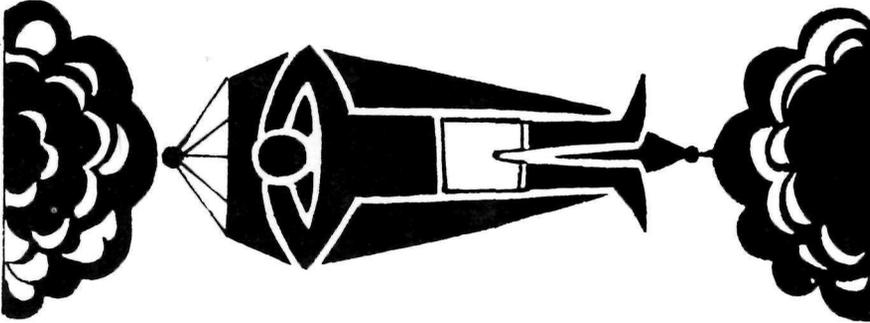
Techniques which would make success a foregone conclusion would rob the activity of much of its pleasure. In competitive sports, the optimal matching of opponents maintains uncertainty. Elaborately organized games are contrived sources of the sort of pleasure that derives from uncertainty of outcome. The fly fisherman is apparently less motivated by the trout he occasionally catches than by the uncertainty as to whether he can catch any fish with a line of less tensile strength than the fish's weight (LaPiere 1954, p. 132).

Turning our attention from the rather extreme example studied by

Emerson, we can suggest that one important type of motivation underlying the recreational use of wilderness by the average devotee may be the mystery it holds for him. He implicitly asks by entering the wilderness, "How well can I do with limited resources?" As I will try to show a bit later, on the basis of some other research, the challenge lies not merely in the question of coping physically with the uncertainties posed by the environment, but also in coping with intellectual problems it poses.

The Quest for Freedom from Tension—Another sociologist has provided some clues to the motivations implicit in forest recreation by studying depreciative behavior in campgrounds (Campbell et al. 1968). It seems to be commonly believed both by recreationists and by campground managers that there are no thieves among campers. Accordingly, expensive equipment is left unguarded, often out in the open, and cars and trailers are often left unlocked and unattended. The theft rate in campgrounds is re-





markably low, Campbell notes, given these conditions, yet theft does occur. Much of it, however, goes unnoticed for various reasons. Both the expectation that theft is unlikely, and the tendency not to report it when it does occur, probably are indicative of major motivations for camping. Camping may be motivated to a considerable extent by the desire to participate in a way of life that is thought to be free from such irritations.

One type of stealing that was observed by Campbell and his associates was predominantly committed by teen-age males who came to the campground only for the day or for the weekend, and often compensated for their own shortage of equipment and supplies by helping themselves to things available in the campground. A common target was campers' ice chests filled with beer and carbonated drinks.

Another type of theft was more serious. Cameras, binoculars, radios, watches, and purses were systematically stolen from locked automobiles, by non-campers who were present in the campground precisely for the purpose of theft. Ironically, Campbell's research team even became theft victims. They awoke one day to find that their locked auto had been broken into, and a tape recorder containing much of their information on theft had been stolen. Eleven other camping parties had also been robbed that night, and more than \$1,000 worth of property had been taken. Later in the summer the researchers were robbed three more times.

Interviews revealed that the victims had all had previous camping

experience but none had ever before been robbed. Most were philosophical about their loss, and none was really angry. They tended to regard the experience as a lesson. The campground remained in their eyes a relatively crime-free community and they were unwilling to redefine it. They did not blame campground authorities for their loss, nor did they expect to be able to recover their property. If they thought to notify authorities it was for the sake of validating insurance claims. Losses often were mentioned only in a casual manner in conversations with officials about some other topic, or only after learning that others had also been robbed.

This stubborn reluctance to redefine the campground as anything but a crime-free environment may be indicative of a major motivation for camping—the desire to live in a morally and socially dependable world for a time.

Agencies Maintain Public Campgrounds

Agencies maintaining public campgrounds can usually give detailed accounts of vandalism. Picnic tables, fireplaces, signs, and sanitary facilities all incur destruction. Such vandalism is commonly blamed upon non-campers who come into the campground specifically for the purpose of maliciously destructive behavior. Careful study by Campbell and his associates, however, revealed that

needless damage is done to a considerable extent by a broad segment of the camping public. Much of it can be attributed to children younger than their teens.

To many of the parents, the campground is a healthy environment in which children can play freely. They are away from the dangers of the city, and it is supposed that nothing can hurt them, nor is there anything they can hurt. Parental supervisory burdens are thus exchanged for quiet hours of privacy. The children, thus

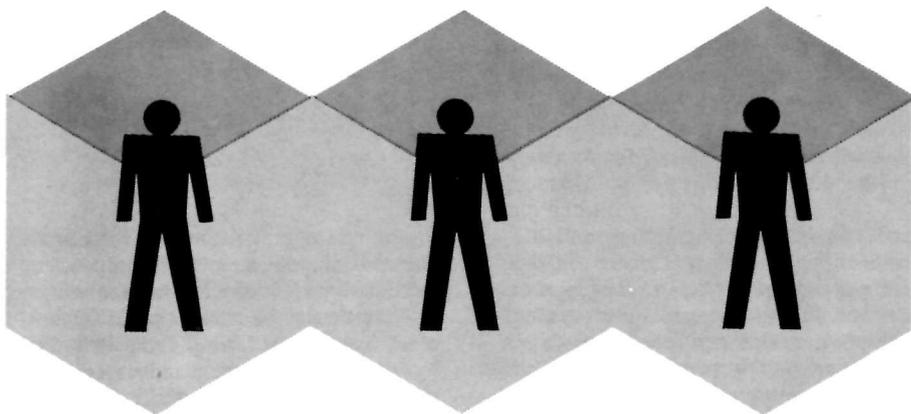


released from parental control, are much more unsupervised than in their home neighborhood. Rather than watchful neighbors to which they are visible on open streets, they are now screened by the woods from indifferent strangers who adhere to the norm of non-involvement which restricts informal surveillance of others in public places.

The chance to attain these temporary freedoms may motivate camping, but many problems arise under such circumstances from the activities of people who elsewhere might be considered basically responsible. They are often ill-informed as to the consequences of their actions in the campground—an environment whose requirements they do not fully understand—and they thus become temporarily and inadvertently inconsiderate. When firewood is scarce, for example, the problem is often met by helping themselves to wood from an adjacent campsite (which may amount to stealing from another camper) or by chopping down an available tree with little or no recognition of the number of growing years required for its replacement. Cars and trailers are often parked to suit the camper's convenience rather than to minimize their burden on the environment, because the burden is unrecognized.

Campers unaware of the danger to tinder-dry forests often build fires outside designated fireplaces, but they are not arsonists. Sanitary tanks of trailers are often emptied in dumping stations displaying signs saying "full" or "closed." Such actions arise from the tendency to seek short-run solutions to one's own immediate problems in simple ignorance of the long-run ramifications for others. Apparently one motivation for camping is the desire to escape the usual necessity for considering the consequences of one's actions.

Rule violations by campers commonly occur when new rules which have been necessitated by increased volume of use conflict with behavior patterns that were established in the days of low-density camping. Campground rules which interfere with what campers apparently regard as an inherent right to have an enjoyable time are likely to be violated. They are at play and, as Emerson suggested, in play, rules are made to facilitate fun by maximizing uncertainty. So a rule which interferes with fun tends to be seen as no rule at all. Rules set up to regulate the relationship between human beings and the natural environment are designed to minimize the uncertainty of

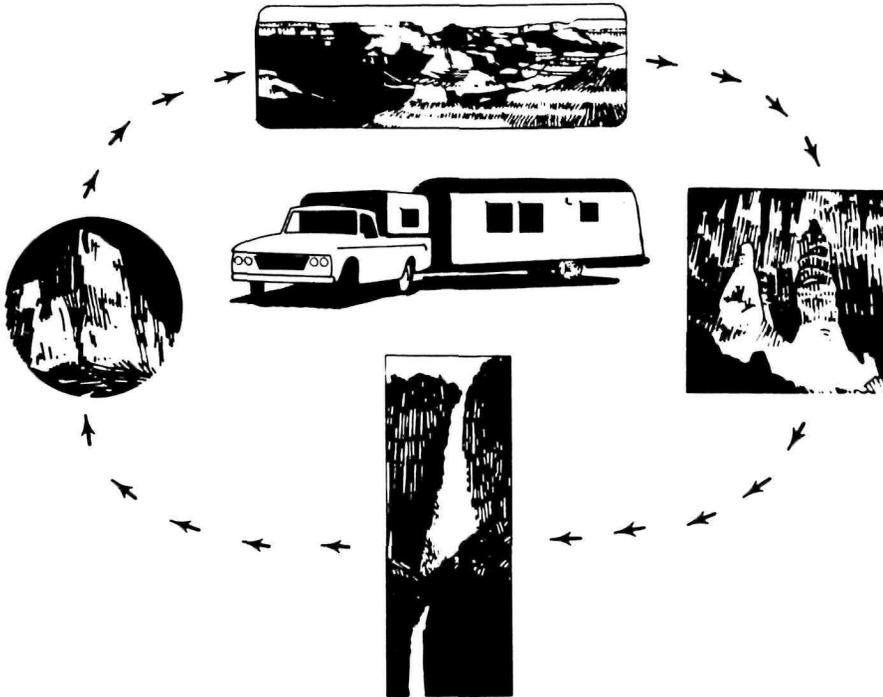


environmental preservation or human safety. As such, they often interfere with the more social aspects of camping as well as the fun-seeking aspects. Hence, rule-violations are likely. The social aspects of camping may be a major facet of the camper's motivation; they have heretofore been largely alien to the ideology of management agencies.

In cities, strangers are continuously thrown together in public places. Privacy is created in urban environments by walls of indifference toward other people. The anonymity which creates privacy also frees the individual from responsibility for the plight of others or for controlling others' behavior. The norm of non-involvement which has developed in cities has been transferred to the public campground. Campers may be

seen passively standing by as their neighbor or his child violates campground law, damages facilities, or creates a public nuisance. It may be inferred from this, perhaps, that part of the motivation in coming to the campground was to be among strangers in a setting where the privacy thus gained entails minimal risks. If so, some of the innocently anti-social behavior of his children might be curbed by locating campgrounds in places where there is just enough of an obvious physical hazard (such as a small gorge with a rushing stream in its bottom) so that the camper does not cease his parental surveillance the moment he arrives.

The behavior of campers toward personal acquaintances and relatives is often quite different. Their activities indicate a strong interest in the



social aspects of camping, and the social opportunities afforded by the campground as a place to congregate. Curfew hours that preclude evening campfire gatherings of friends, or rules against group use of a site which may have a valid ecological basis but which interfere with desired social proximity will tend to be resented or ignored.

Some Dimensions Of Variation

With the two polar opposites thus delineated—the mountaineer's quest for uncertainty and the urbanized camper's quest for privacy, freedom to socialize, and freedom from tension—we are ready to consider several ways in which the motivations of vacation travelers may vary (Catton 1965).

First, the purpose of their trip may be either "diffuse" or "specific."

The specificity-diffuseness dimension may be illustrated by some sample answers given by visitors to Mt. Rainier National Park in response

to the question, "What was the chief purpose of your trip?" Some people indicated a very specific wish to camp in a particular spot in the park. On the other hand, one family from Illinois wrote "To see the west and visit relatives." One would say their motivation was diffuse, and their visit to Mt. Rainier was hardly attributable to the specific features of the natural environment in that park. In addition to Mt. Rainier, their trip had included six other national parks. A visitor from Michigan said the trip's purpose was "Visit northwest," and his itinerary included Grand Teton, Yellowstone, Glacier, Crater Lake, Rocky Mountain, and Olympic National Parks, as well as Mt. Rainier. Such visitors appear to be motivated by environmental attractions in a very general way, but not so much by the specific attributes of a particular locale.

Second, alternative travel destinations may be qualitatively either similar or diverse. Some people visit National parks or similar areas quite incidentally to their travels to visit relatives, urban centers, world's fairs, etc. This reflects the motivational dimension of qualitative similarity or diversity of goals. A family from a suburb of Portland, Ore., said after visiting Mt. Rainier during the summer of 1962, "We have never

visited any other national park because of a habit over the past years of spending our brief vacation times visiting relatives and friends. There are several national parks that we would very much like to see and we plan to make up for lost time in future years by visiting them. Especially interested in Grand Canyon, Crater Lake, Yosemite, Bryce Canyon, Glacier, Rocky Mountain, and Zion." It is interesting to note that these people already had an awareness of various national parks and had formed latent preferences among them, even though they had never visited any. They had been deterred from visiting them in the past by qualitatively-different vacation destinations—friends' and relatives' homes. An incidental visit to one national park with relatives had evidently begun to break the logjam for them.

The third type of variation pertains to spatial locations of travel destinations relative to the traveler's point of origin. He is more likely to visit two destinations on the same trip if the two lie roughly in the same compass direction from his home, so that one can serve as a stepping stone en route to the other. The typical itinerary of the national park visitor appears to be an elongated oval or crescent. Such itineraries generally include one or more other

parks en route to or from the most remote park visited.

It is conceivable that people visit wilderness simply as a function of a somewhat frantic exodus from unpalatable city environments. To be sure, some city environments are so unpalatable as to be termed an "affliction" (Udall 1968, pp. 24-40). It is highly probable that an element of frantic escape is involved in some of the exodus from them. But this cannot be the whole story. If it were, virtually any non-urban destination would serve as well as another. The travel motivation would be quite diffuse, as far as destination characteristics were concerned. One could go to the nearest available campsite and avoid the bother of an elongated oval or crescent-shaped itinerary taking in a series of camping stops. The frantic exodus hypothesis would predict that various national parks, for example, would be in a strictly competitive relationship with each other for the tourist's visiting time. His arrival in a particular national park should, by this hypothesis, reduce his probability of visiting any other national park on the same trip, since any one park would suffice as a haven. This is not, however, the way it works. We found that the proportion of out-of-state visitors to Mt. Rainier who also visited Olympic National Park on the

same trip was not less than the proportion for the general population—it was actually 10 times higher! The probability of visiting a given park, it turns out, varies directly with its proximity to another park, rather than inversely with proximity to another park, as would be expected, if the parks were strictly competitive havens for visitors frantically escaping urban horrors.

Apparently people are attracted to natural wonders in the parks, not just repelled from manmade horrors in the cities.

Some Attitude Measurements

To find out more about variations in attitudes of campers, a 13-page questionnaire was sent to some 4,600 persons who had camped on selected dates in the summer of 1966 in certain National forest and National park car campgrounds in the state of Washington, or in back country areas of three National forests or two National parks in that state (Hendee 1967). One of the things we asked was what kind of area the respondent most preferred for camping. We also

asked why he preferred the kind of area he chose as his favorite. Those who preferred Forest Service areas were most likely to attribute their choice to the absence of people. Respondents preferring Park Service car campgrounds most often cited the excellent facilities. Park Service back country devotees were most likely to mention features of the natural environment as the major factor in their choice.

One of the pieces of background information obtained was the locale in which the person had been brought up—urban, small town, or rural. For respondents who prefer back country, the proportion who chose National Forest rather than National Park back country was less among persons raised in the city than among those raised in the country. This poses an intellectual puzzle: why should having an urban background make a wilderness user favor Park Service back country over Forest Service back country? Why should a rural background tend to produce the opposite inclination?

Motivated by uncertainty as to this puzzle's solubility, we proceed to examine additional data from the study. Other parts of the questionnaire consisted of sets of interrelated statements which the respondent was asked to endorse or reject in varying degrees. These sets constituted attitude scales.

Natural-Environment Differentiation Attitude Scale—One set of statements provided a measure of the respondent's tendencies to differentiate various environments and to expect to behave in different ways in different environments. For example, environment differentiators would be more likely than non-differentiators to agree strongly with the statement, "Even if it is allowed one should not camp just anywhere he pleases in remote back country of wilderness character." Non-differentiators would be more likely than differentiators to endorse the statement, "The area in front of one's tent can be made more attractive by taking a broom and sweeping up all the needles fallen from trees."

The majority of our respondents had positive differentiation scores, but those who preferred back country rather than car campgrounds tended to be stronger differentiators, and those who preferred Park Service areas rather than Forest Service



areas had a slight tendency to be stronger differentiators. It turned out also that one was more likely to be a strong differentiator if he had been brought up in a city than if he had been brought up in a small town. He was least likely to be a differentiator if he had been raised in the country.

Utilization-Preservation Attitude Scale—Another set of statements in the questionnaire was intended to measure respondents' attitudes on a scale of preference for using versus preserving natural resources. Preservationists were more likely to endorse statements like "Trees should never be cut for commercial purposes in or close to areas that have recreational value." Utilizationists were more likely to endorse statements like "We cannot afford to use our timber resources just to look at because the need for lumber production is so great."

Car campers were less preservationist-oriented than those who preferred back country camping. Respondents whose favorite areas were National park back country were the ones likely to be strong preservationists. Those whose favorite areas were National forest car campgrounds were the ones most likely to be utilizationists. Utilizationist attitudes were more common among those with rural backgrounds and less common among those raised in the city.

The pattern of relationship between scores on this attitude scale and amount of camping experience in the various categories of places indicated that contact with the natural environ-

ment and contact with one administrative agency more than another have joint effects on the camper's attitudes toward preserving or using resources. Respondents with preservationists attitudes were more likely to cite some feature of the natural environment as their reason for preferring a certain type of area for camping.

Patterned Relationships—More respondents held jobs in the professions than in any other census category of occupations. The exact proportion varied by area preferred, ranging from a little over one-third among National forest car campers to nearly 70% among National park back country devotees. A similar relationship between education and area preference was found. Preference for back country over car camping was associated with a college education. The college educated also tended to prefer Park Service areas over Forest Service areas. Education was much more predictive than income in relation to area preference.

From these patterns it is a reasonable inference that wilderness use is motivated to a substantial degree by the intellectual puzzles nature presents to the human visitor. The more educated the visitor, the more responsive he is to nature's intellectual challenges. The back-packer is not just an athlete or fresh-air fiend. He is likely to be also an amateur ecologist or geologist. He visits natural environments partly because he has learned how to ask interesting questions of nature.

Our questionnaire asked whether respondents preferred camping close to others not in their own party or did they generally choose isolated campsites. Preference for an isolated campsite varied with education—from less than one out of four respondents who had less than eighth grade education to almost three out of four of the respondents with three or more years of post-college education.

In motivational terms, this may mean that the sophisticated wilderness user genuinely prefers contact with the natural environment rather than with other campers. Or, it could mean that he prefers the privacy afforded by physical isolation rather than the kind of privacy produced in crowds by adherence to the urban norm of non-involvement. It is an interesting thought that the geographic remoteness of wilderness and the norm of non-involvement prevailing in the easy access campground may be functional equivalents. In the same manner, the man who takes his family up the trail into the deep back country may be trying to accomplish the same

renewal of independence from others and interdependence with each other as the man who shuts out the world by enclosing himself and his family in an aluminum and fiberglass box—i.e., a pickup truck camper or a trailer.

Wildernism and Urbanism—In another study of 1,348 visitors to three Forest Service wilderness areas in Oregon and Washington (Hendee et al. 1968), we devised an attitude scale to place respondents on a continuum ranging from those who apply urban value-orientations to wildland recreation (“urbanists”) to those who insist on distinctively non-urban value-orientations for recreation in wilderness settings (“wildernists”).

Among the 60 items in this scale, the five which most sharply distinguished urbanists were these: they liked developed resort facilities, campsites with plumbing, power-boating, equipped bathing beaches, and auto touring. The five items which most sharply distinguished wildernists were these: they liked backpacking, sleeping outdoors, hiking tranquility, and solitude.

The Creation of Wilderness Motivation—How do people get that way? Clearly, one important factor in motivational development is association with others. If the people one goes around with are urbanists, utilizationists, and non-differentiators, and have a preference for easy access car camping in places with modern conveniences one has an opportunity to develop the same constellation of motivational attitudes. If one goes around with wildernists, preservationists, natural-environment differentiators, and they have a zeal for backpacking to remote places, there is a good prospect of becoming that sort of person oneself.

Our questionnaire asked, “Of your five closest friends, how many engage in remote back country recreation at least now and then?” The relationship between answers to this question and the various attitudes we measured was consistent with sociological expectations. The more back country-using friends one has, the less likely one is to prefer car campgrounds, or to prefer areas under Forest Service rather than Park Service jurisdiction. The more back country friends, the more a person tends to cite features of the natural environment, or absence of people, as reasons for preferring a certain type of area, and the less he tends to cite facilities as a basis for area choice. Membership in outdoor clubs and conservationist organizations is related in a similar manner to these attitudes.

Conclusion

Because of the educational and occupational upgrading of the population, attitude distributions which are characteristic of the college-trained professional categories today may indicate what the patterns for larger segments of the population will be tomorrow. Our findings show that professionals and people with extensive education were more likely than others to be strong natural-environment differentiators, and moderate or strong preservationists. Non-differentiators and utilizationists tended to prefer more developed campgrounds, and tended to bring along more of their own equipment, too. Differentiators and preservationists tended to prefer less developed campgrounds, and tended to bring less gear.

To sum up: wilderness user motivations can be inferred from various kinds of data about wilderness users' characteristics and behavior. These motivations are varied and complex, but there are discernible patterns in their variation. The motivations for wilderness use are learned, not inborn, and there are reasons to expect that increasing proportions of the population will learn them, both from each other, from contact with wilderness environments, and from conservationist organizations and resource management agencies.

And, perhaps somewhat ironically, the urban-bred camper tends to be less urbanist in his value-orientations, which may explain why he chooses National Park back country as his favourite recreational environment more readily than does his country cousin. There is hope: recreational use of forest lands will continue to increase and this will often make fire protection more precarious and more imperative; but tomorrow's forest recreationist will more often have a sophisticated respect for wild nature than does his counterpart today and will be an informed ally in the task of fire protection.

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A Conservation Group Preserves Choice Sites By Aggressive Tactics

MASON NECK, Va. — The Potomac River ice creaks and groans beneath the January sky. Cardinals flit across the beige and white of the snowy cattail marsh, and crows caw from nearby woods of beech and oak. A great blue heron lifts away on three-foot wings.

Mason Neck on a clear, cold morning is placid, unhurried now. But only five years ago this 10,000-acre peninsula was threatened by the relentless spread of suburban Washington. Real estate speculators controlled the land; there were plans for asphalt streets through the woods, subdivisions near the restored mansion of a Colonial planter.

It didn't happen. And the main reason was the quiet work of an increasingly effective conservationist, the Nature Conservancy.



Mason Neck, administered by the Northern Virginia Regional Park Authority who furnished the photo.

LAND FOR



Nature Conservancy Uses Loan Programs to Save



POSTERITY

Forests, Islands, Marshes

BY - Dennis Farney

Staff reporter of
THE WALL STREET JOURNAL

Three years ago, the Conservancy moved in and began buying up more than 3,000 acres here for about \$5.6 million, checkerboarding its holdings to block development of most of the peninsula. It was another successful application of one technique that helps make the Conservancy unique among national conservation groups—unique in what it does as well as what it doesn't do.

The Conservancy isn't the best-known national conservation organization. It rarely makes headlines with dramatic protests or last-ditch lawsuits. It doesn't sponsor wilderness outings and it doesn't publish beautiful books.

It just preserves land, the kind of land that can't be replaced; Virgin woods in New Jersey, islands off the Atlantic Coast, ancient California redwoods, prairies, marshes and mountains. The Conservancy is the only national conservation group that puts its total resources into land preservation. So far, it has preserved about 200,000 acres in 41 states and the Virgin Islands—most of this since it really got rolling in the early 1960's.

The Conservancy traces its lineage to a 1917 committee formed to acquire natural areas for scientific research. Today, however, the Conservancy is interested in outstanding examples of the American environment for other purposes as well. It buys such land itself or lends money to private groups that wish to do so; tax-exempt and non-profit, it accepts bequests and donations of land or cash. It has helped preserve everything from a 10,500-acre island off Georgia (now a Federal wildlife refuge) to Ezell's Cave, the subterranean home of Typhlomolge Rathbuni, the Texas blind salamander.



Beating the Bulldozers

Both public and private efforts to preserve natural areas threatened by development often founder for the same reason: A lack of ready cash. By the time a government agency can secure its appropriation or a citizens group can launch a fund-raising drive, the bulldozers have come and gone. The Conservancy is trying to fill this gap with three programs:

Programs

—From a revolving fund of more than \$1.1 million, it makes quick loans to private groups, including its own chapters, organized for the purpose of acquiring specific areas. The groups may take up to three years to repay; the loans are interest-free for three months, then bear interest at an annual rate of 6 1/2 percent.

—A separate endowment fund of about \$800,000 guarantees bank loans to such groups when the revolving fund is being used to capacity.

—Under its newest program, which utilizes a \$6 million line of credit guaranteed by the Ford Foundation, the Conservancy moves in fast to acquire tracts being sought (for parks or wildlife refuges, for example) by Federal, state or local government agencies. It resells the land to the agencies when their appropriations come through.

Requests for help are keeping all three funds busy. A loan to a citizens group, for example, recently helped preserve Clausland Mountain, a wooded rampart on the Hudson River near New York City. The \$237,500 loan clinched offers of more than \$1.1 million in additional money from other sources. Area artists have raised some of the money for repayment with an "Art for the Mountain" benefit.

Broad Support

The program using the Ford-guaranteed credit line has acquired more than 11,000 acres since early 1969, sometimes nailing down tracts that slower-moving government agencies might have lost. A good example is the 3,215 acres of Michigan forest recently acquired for the U.S. Forest Service. The Federal agency turned to the Conservancy because the tract was being marketed by a concern that needed to sell quickly, and it might have taken the Forest Service as long as 18 months to secure the necessary appropriation.

Such successes are winning the Conservancy support from figures as diverse as Laurance Rockefeller, Charles A. Lindbergh, Arthur Godfrey ("Boy, they do a job") and Marshall Field. Says a top Federal conservationist: "They haven't tried to branch out and get involved in all aspects of the environment. They've stuck to land preservation—and they're doing it damned well."

Conservancy officials praise the efforts of such better-known organizations as the Sierra Club, which attempts to rouse public opinion and sometimes hauls developers and polluters into court. But the Conservancy generally avoids such fights. "The measure of our success is not how we propagandize for or against a given issue," says Thomas W. Richards, president. "It's in those acres, and in the quality of those acres."

So it's no accident that Conservancy headquarters in downtown Washington rather resembles a high-powered real estate agency. It's the

kind of place where Mr. Richards may interrupt an enthusiastic description of a contemplated project (enclosing both banks of a portion of the Potomac in a "green sheath," for example), to answer the telephone and bargain for an island, a marsh or a forest. The atmosphere seems a little like that cartoon above the desk of Edward R. Kingman, vice president and treasurer. The cartoon depicts an exasperated executive who bellows: "Whattya mean we don't have any capital... The acquisition's already been approved."

The cartoon notwithstanding, the Conservancy is at home in the world of finance. Mr. Kingman has been a bank vice president, a financial consultant and a real estate broker; Mr. Richards has nine years of experience as an IBM department manager. Other staff members include ex-real estate agents, a NASA administrative assistant and an industrial engineer—all

recruited for their management skills.

"Conservation problems today are no longer solved by a guy hiking around in the woods," says Alexander B. Adams, an ex-FBI agent who helped lead the Conservancy through most of the 1960's. "They're solved by guys sitting behind desks, thinking." Agrees Mr. Richards: "To win a land conservation battle today, you've got to use the same skills private industry uses."

Last year, its biggest yet, the Conservancy helped preserve nearly 40,000 acres through 101 projects and donations. The year also marked ceremonial completion of a major phase of the Conservancy's most spectacular project to date: The addition of about 10,000 acres to Hawaii's Haleakala National Park.

Before the project Haleakala Park occupied about 14,000 acres atop a long-extinct volcano. Soon the park will contain about 24,000 acres and extend from the mountaintop to the sea, an enlargement that one conservationist calls a "dream come true." It all began with a 1967 challenge from Laurance Rockefeller. He would donate a \$585,000 piece of shorefront to the park—if the Conservancy could acquire the eight-mile-long Kipahulu Valley between the shore and the mountaintop.

Often veiled in fog or drenched in torrential rainfall, the valley is a lush remnant of Hawaii as it used to be. More than 100 waterfalls roar in a rain forest abundant with wildlife, including a bird species presumed extinct for 80 years. The upper valley is a wilderness scarcely penetrated by modern man. Not surprisingly, the Conservancy took the challenge and went to work.

Hard Bargaining

As negotiator, the Conservancy dispatched Huey Johnson, its western regional director. In two weeks of hectic bargaining, Mr. Johnson reached agreements with the valley's three private landowners, then persuaded the state of Hawaii to donate about 3,000 additional acres it held.

The private owners eventually sold nearly 7,000 acres for \$620,000, donating additional acreage valued at \$300,000 as a tax-deductible contribution. A mail solicitation, three cocktail parties and a luncheon raised the \$620,000, with about \$375,000 coming from a gathering in New York's Pan Am building. Mr. Lindbergh addressed that gathering, and Mr. Godfrey did a persuasive job, too. He describes catching a departing donor in the elevator and emerging at the end of the ride with a pledge of \$100,000.

In January 1969, the Conservancy donated more than 7,000 acres to the National Park Service under an agreement that will preserve the upper valley as wilderness for scientific research and open the remainder of the valley to the public. (The state is in the process of conveying its 3,000 acres to the Park Service.) Then the Conservancy launched the project's second phase: A campaign to raise about \$750,000 to purchase several hundred additional shorefront acres highly vulnerable to development. If this phase succeeds, Gov. John Burns has indicated, he'll work for the donation of additional state land. Says Mr. Richards: "We want to do this thing once and for all, and do it right."

The scope and expertise of the Kipahulu project was a far cry from the Conservancy of 1960. That year the organization preserved only about 4,000 acres, had an operating deficit and only about \$100,000 in its revolving loan fund, and was mired in an ill-planned project that threatened to bankrupt it. Adds Mr. Adams, then president: "We were like practically every other conservation group—trying to do everything at once, and not doing anything as well as we might."

Spurred by Mr. Adams, the Conservancy reorganized. It beefed up its staff with help of Ford Foundation grants, formed the endowment fund and secured the Ford-guaranteed line of credit. And after what Mr. Adams calls "a long battle within the organization," it phased out activities unrelated to land acquisition.

This meant leaving public protests to other conservation groups, a de-

cision that still has its critics. One, for example, asserts that "too much concern about what major contributors might think" sometimes inhibits Conservancy activities and was a major factor in the policy change.

This critic is particularly disturbed because in the early 1960's the Conservancy dropped an active role in opposing a controversial pumped storage, hydroelectric plant proposed by Consolidated Edison for New York's Storm King Mountain. He maintains: "Many Conservancy backers are stockholders of Con Ed or are interested in other forms of economic development along the Hudson and might have been offended."

Mr. Adams disagrees. "I know of no instance where our policy has been affected by a donor, and I can say that absolutely flatly," he declares. He calls the protest against the Storm King plant "the kind of project that could be much better handled by other groups" and notes that another group did take over after the Conservancy dropped out. The intent, he says, was to "disengage from things other organizations were already doing and concentrate on buying land."

There's no doubt that Conservancy fortunes soared after the reorganization. In 1969, it either bought or received as gifts land valued at nearly \$20 million, up from about \$750,000 in 1960; by 1975, it expects this amount to rise to \$50 million. During 1969 it transferred ownership of \$7.2 million worth of land to various Federal, state and local institutions, including universities.

Increasingly, the Conservancy is going into large-scale projects that will protect complex life chains in broad areas. A top priority for the 1970's will be the acquisition of coastal marshes and wetlands to protect spawning grounds for marine life and refuges for migratory birds. Separate projects, already well under way, aim to establish "coastal reserves" of islands off Georgia, Virginia, Maine, and Florida. Other priorities: The acquisition of virgin prairie, water-filled "potholes" (needed by migrating ducks and geese) in the upper Midwest, and desert springs and streams.

Needed: \$31 Million

This year the Conservancy will spend \$7.5 to \$10 million for land acquisition—a record but about \$31 million short of what it would like to spend, says Mr. Richards. He estimates he would need at least \$15 million more, for example, to buy up "some of the most critical inholdings" (private land) within national parks and other public areas; \$10 million more to fully execute a new project to protect threatened wetlands around San Francisco Bay; \$3 million more for Gulf Coast Florida islands and wetlands; and \$3.5 million for Atlantic barrier islands and salt marshes. Meanwhile, additional requests keep coming in. Illinois is asking help in buying a \$7.8 million piece of open space in Chicago, for example. And Sen. Ralph Yarborough (D., Tex.) has asked for help in preserving something of East Texas' Big Thicket, a beautiful forest of pines and hardwoods.

Private donations and fund-raising drives by Conservancy chapters and project committees brought in nearly \$5.5 million in cash and securities last year. Donors also contributed about \$12.5 million worth of land, including a 74-acre ridge in Connecticut and 361 acres of forest (valued at \$1 million) in Florida.

"We're willing to go to almost any length for a donor," says John F. Jaeger, the staff attorney who processes most of the gifts and bequests of land. Some donors retain the right to live on the donated property for their lifetime, for example. Others donate only a portion of the value of

**The Conservancy's most spectacular project to date:
The addition of about 10,000 acres to Hawaii's Haleakala National Park.**



their land and sell the remainder to the Conservancy, or assign ownership to the Conservancy over a 20-year period.

The Conservancy is looking for help from another area: Business. Last year, in what Mr. Richards called a "breakthrough for conservation," the Conservancy accepted a gift of two groves of California redwoods (worth about \$6 million) from Georgia Pacific Corp., a concern that drew bitter attacks from some other conservation groups during the fight to establish the new Redwood National Park. The gift, now a California state park convinces Mr. Richards that business and the Conservancy can work together with mutual benefits.

"I'm anxious to work with other businesses, particularly the extractive industries," he says. "It's conceivable, for example, that a lumber company could assess its massive holdings and find some areas that aren't beneficial to it but which would be great from our standpoint. We could take management problems off their hands and enhance their public image in the process."

It's an irony of Mr. Richards' work that he seldom escapes his office to visit the landscapes he's helped preserve. (His most satisfying acquisition to date is a Georgia island he has yet to visit.) But he's an enthusiastic outdoorsman, as a winter hike here on Mason Neck well indicates.

A jaunty beret on his head and field glasses swinging from his neck, Mr. Richards strolls across the iced-over marsh and into the woods, checking tracks in the snow and training the glasses on birds that wing by. "Boy, isn't that great!" he exclaims, focusing in on a flying woodpecker—red and white and black against the sky. Still watching, he quips: "Look at that body!"

He studies a distant treeline, the last known nesting area of the bald eagle on this stretch of the Potomac. (The marsh and nesting area, part of the acreage acquired by the Conservancy, will soon be a Federal wildlife sanctuary; other tracts on the peninsula will become state and regional parks.) Then it's on to Gunston Hall, the restored mansion of George Mason, a close friend of Thomas Jefferson. Residential subdivisions had been planned near Gunston Hall before the Conservancy intervened.

Later, in the formal gardens behind the red-brick mansion, Mr. Richards stops to savor the view: The 200-year-old hedge of English boxwood, the giant oaks, the uncluttered woods beyond.

"This will give you an idea why the Conservancy is here at Mason Neck," he says, "We're not just saving a bald eagle sanctuary. By God, this is part of this country's heritage, and it shouldn't be messed up."

