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Vandalism: Research, Prevention and Social Policy



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Vandalism: Research, Prevention, and Social Policy

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This book is an examination of how vandalism is being approached through research, law enforcement, education, design, understanding human behavior, innovative ideas, and integrated programs. An introductory section provides theoretical and empirical perspectives on vandalism. Chapters describe the role of research in designing against vandalism, psycho-social definitions, and new orientations toward depreciative behavior. Empirical studies of an urban youth subculture, characteristics of (railhead vandalism, effectiveness of trailside sign texts, and a brochure on reducing vandalism are presented. Another section provides perspectives on vandalism policy and prevention by urban managers, including responses by transit agencies in two major metropolitan areas and responses by various communities toward graffiti and other forms of vandalism. Other chapters deal with preventing vandalism to archeological and recreational sites. Coverage includes rock art vandalism and cultural resource site protection on public and Indian lands. Concluding chapters discuss indirect management to protect cultural and natural resources and vandalism in rapidly developing rural areas as influenced by the changing meaning of property access.

Keywords: Vandalism, research, social policy, prevention, archeology, cultural resources, depreciative behavior.

FOREWORD

The first International Symposium on Vandalism in North America was held April 20-22, 1988, in Seattle, Washington, the purpose of the symposium was to encourage and stimulate the exchange of ideas, solutions to problems, and descriptions of research needs by bringing together managers; researchers; educators; people in law enforcement; criminal justice, and crime prevention; business leaders; lawmakers, and other public officials; environmental advocates; designers; and the public. Reflecting the worldwide nature of this problem, the Seattle symposium built on the 1982 International Colloquium on Vandalism held in Paris and the regional conferences held in Seattle in 1977 and 1982.

More than 200 participants from the United States, Canada, and Europe attended the 2-day symposium. Subjects presented ranged from public transportation issues and urban landscapes to vandalism targeted toward archeological resources and park and recreation settings.

Vandalism is damaging and costly. Private and public targets include apartment buildings, condominiums, and single-family residences, construction sites and equipment, parks, forests, and refuges, public transportation, schools and playgrounds, industries and manufacturing plants, airports, bus and train depots, and archeological and historic sites.

The objectives of the symposium were to:

- Describe the nature and extent of vandalism in various settings;
- Describe the current state of research on vandalism, focusing on definitions, theories, methodologies, and social policy;
- Examine enforcement practices and development of laws to combat vandalism;
- Share successful and innovative programs and management techniques to mitigate vandalism;
- Identify action goals for local communities, parks, forests, and other public and private lands; and
- Develop a network of managers and researchers who can determine research priorities, facilitate cooperative studies, and circulate results.

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SECTION I

THEORETICAL AND EMPIRICAL PERSPECTIVES ON VANDALISM

No One Is in Control

Henry Chalfant

HENRY CHALFANT is a sculptor, the author of *Spraycan Art*, and lives in New York.

Abstract

Few topics in recent years have provoked as much controversy as graffiti art. An insoluble problem for city officials for decades, graffiti art in New York now seems to be on the wane even as it flourishes in many other cities. Twenty years have proved insufficient to reach a consensus: is it vandalism or is it art? Many groups define and categorize graffiti art. Although city officials call it a crime, folklorists see a new urban vernacular. Some art dealers and critics consider graffiti the most American art form since pop art, but others see its elevation to high status as evidence of the erosion of value in our culture. Psychiatrists and sociologists see in the activity a healthy response by adolescents to the absence of adequate structure and ritual in contemporary urban society. Today's heterogeneous cities are divided into domains not so much territorial as cultural. On the street, urban teenagers have their own style of language, art, music, and dance, and their own value systems. Thus, they do not agree with adults on esthetics, the law, and the meaning of the word "public." Who controls the environment? Society has demonstrated its failure over the last couple of decades as some neighborhoods have been reduced to rubble and others have been built up with stupefying lack of imagination. Persistence of graffiti art is directly related to neglect and the skewed priorities of public policy. Although vandals want to destroy, graffiti artists see themselves in a complex variety of roles including the desire to beautify and personalize the urban landscape.

Keywords: Graffiti, urban, control, vandals, spray-can artists, writers, authority.

Introduction

Few topics related to vandalism have provoked as much controversy in recent years as aerosol art. An insoluble problem for city officials for decades, painting with a spray can, or "piecing," now seems to have leveled off in New York, while it flourishes in many other cities. Yet, after 20 years, there is little agreement: is it art, or is it crime, why do people do it, and what are the most appropriate responses to it?

Different groups define or categorize aerosol art in different ways. City officials call it a crime, but folklorists see it as a new urban vernacular. Some art dealers and critics consider it the most purely American art form since abstract expressionism and pop art; others view such elevation to high status as evidence of the eroding values in Western culture. Psychiatrists and sociologists believe the activity is a healthy response by adolescents to the absence of adequate structure and ritual in contemporary urban society.

Two Cultures

Today's heterogeneous cities are divided into domains not as much territorial as cultural. On the street, urban teenagers have their own style of language, art, music, and dance—often invisible and ignored by outsiders and adults who are repelled by and unable to discern the form in the cacophony. Kids have their own values and do not often agree with adults on such matters as esthetics, the law, the meaning of the word "public," and control over the environment. Society has demonstrated a failure in its stewardship of the environment over the last couple of decades, and we have watched as some neighborhoods have been reduced to rubble while others have been built with stupefying lack of imagination. The persistence of "tagging" (a stylized personal signature) and "piecing," and other activities perhaps more accurately regarded as acts of vandalism, is directly related to both neglect and the priorities of public policy. But while vandals simply want to destroy, spray-can artists, who call themselves writers, see themselves in a complex variety of roles that include the desire to embellish and personalize the forbidding urban landscape. People often object that these artists, even when they are good, are forcing their art on a public that has had no say in the matter. The writers point to billboard and poster advertising and to the sterility of contemporary architecture and counter that citizens are powerless to do anything about the esthetics of their surroundings. A British writer of the 1980's, known as 3D, states the following:

In the city you don't get any say in what they build. You get some architect that does crappy glass buildings or gray buildings. No one comes up and says, "We're building this, do you like it? Here's the drawings, we'll take a poll." So why should I have to explain what I do? I live in the city, I'm a citizen. Maybe in the eyes of this town I'm not so important, because I don't have all that high a status, as in class and job. But I live here so I should have as much say as anyone else, and that's why I go out and paint, 'cause I want to say something, and I don't want to be told when I can do K (Chalfant and Prigoff 1987, p. 10).

Various social, political, and environmental conditions may need to be present for a subculture of spray-can artists to take hold, starting with the size of the city. Perhaps a minimum number of inhabitants is necessary for such writers to escape detection by the police and vandal squads. Next is a legal system that protects civil rights and observes due process; in a totalitarian society, this form of art would take root only

with difficulty. New York City deserves credit for never allowing its police to shoot spray-can writers, and for courts that have generally treated them fairly. The police, however, have often acted with contempt and excessive force, handing out beatings and pressuring youngsters to "drop a dime," or inform on others in return for leniency. The adversarial relation between kids and the police in the city is an important element of the climate in which piecing thrives. To challenge and elude the police is part of the game, and the attitude of spray-can writers can best be summed up by one called SKEME, whose message on the number one local of the New York subway reads, "To the boys in blue, catch me if you can."

Paradoxically, the absence of a truly representative democracy at the grass roots has most encouraged the genesis of aerosol art. When people feel, unlike 3D of Bristol, that they have control over their environment, they are less likely to improvise their own solutions and rebellions. Few groups are more removed from the seats of power than inner-city teenagers today.

So two sets of conditions are conducive to a writer's subculture. The first set encompasses the neglect, social chaos, hopelessness, and the destroyed physical environment that encourage—at worst—hostile, destructive behavior, or—at best—the creation of unorthodox social forms to cope and to gain power over life. Writers have improvised their own social forms just as the street gangs did before them, joining crews to paint together and for protection. (Where writer's crews and street gangs in the 1970's were autonomous and under no one's control, today the same penchant of urban youth to form gangs and alternative lifestyles is being exploited, ominously, by the drug empire.) In the second set of conditions, the same social chaos and distance from power leave a vacuum of authority that means freedom to get away with crime. Authorities in a small city quickly find out the identities of the few vandals in their midst. In a highly ordered society like Switzerland, authorities will ruthlessly track down the spray-can artists. The story of Der Spreyer Von Zurich is an example. Affronted by the sterility of his city's walls and tired of the suffocating regularity of displaying art in the usual venue of galleries and museums, an artist named Nagely began to paint beautiful, cryptic line drawings on carefully chosen walls throughout Zurich. They were graceful, witty, and responsive to their location, hardly the angry attack of a vandal. Nevertheless, the Swiss stopped at nothing until they caught him. Out on bail, Nagely fled to neighboring Germany, where he sought refuge until extradited back to Switzerland to face jail and a fine of 250,000 Swiss francs.

In New York, it is worth asking why spray-can art provokes responses from city officials and the public that are so out of proportion to the offense. If their outcries are against the art's degradation of the environment, such degradation is innocuous compared with the material disintegration and abandonment of entire neighborhoods and with the deliberately deferred maintenance that brought the subway system to the brink of ruin. Noted sociologist Nathan Glazer writes:

The New York City subways are a disaster for many reasons, but one of the reasons which contribute to a decline in patronage and an increase in uneasiness and unhappiness among those who must ride the subways is the presence of graffiti, both because they disfigure the cars and stations, and

because they send an unpleasant message—no one *is in control, and anything can happen on the subways*, [emphasis added] (Glazer 1981).

The Establishment saw graffiti as an indicator that society had lost control and tried to combat it in symbolic terms. When newspapers realized they had been instruments of the encouragement and spread of graffiti, they tried to limit further publicity by ignoring it. The mayor of New York persuaded the Transit Authority to put dogs in the train yards, not because dogs would be a practical or useful deterrent (indeed, only a few dogs were ever placed), but as a symbol of their resolve and to strike fear into the kids. Anti-graffiti squads discovered the effectiveness of adopting the tactics of warring groups within the writers' subculture and began crossing out pieces. The Transit Authority concentrated its efforts on destroying the best paintings on the train, not because their efforts left a clean train—on the contrary, the result was an ugly mess—but because what they wanted to destroy represented an alternate idea of beauty. Thus, one of the goals of the war on graffiti was to win the support of the citizens. The ultimate weapon in this war was a great white fleet of trains, conceived by the Transit Authority to instill values of purity and cleanliness in the unruly inhabitants of marginal neighborhoods.

Anthropologists studying systems of symbols explain that as humans, we order our perception of the world—too vast for our brains to grasp in totality—into categories, the categories being selectively defined by our respective cultures. Nature, they say, is without seams and is a continuum on which we impose order and structure. We create categories and reject things and events that are anomalous and do not fit into them. Spray-can artists subvert authority and violate property; another assault on our values may be their willingness to create art for no profit. Because we do not understand the artists' motives, we fear we cannot control them. Piecing, therefore, is a symbol that we have lost control. Arson seems to be accepted with greater equanimity than is piecing. We understand that when the landlord burns down his building, he gets the insurance. Sure, he's greedy, even a crook, but he is only trying to get a return on his investment. But writers are going to all that trouble to paint trains for nothing. Nobody hired them. Nobody gave them a grant. Clearly, no one is in control and anything can happen!

The Sociological Approach

Since Hip Hop culture burst upon the public's awareness in the eighties, scholars in the social sciences and in fields such as folk art and urban studies have shown greater interest in the hitherto neglected world of inner-city youth. Some social scientists have focused on inadequacies of the environment and view writing as an adaptation. They point to the absence of ritual in secular society during the difficult age of adolescence. With the diminished power of religion and secular institutions such as schools to confer status and to mark change, individuals are left without markers to guide them through the important transitions in life. The urban teenager in contemporary society lacks even such common secular markers as the driver's license. The practice of writing, therefore, is profoundly symbolic and ritualistic on many levels, in addition to serving as a vehicle of expression. Immersion in the subculture for several years approximates the period of initiation through which adolescent boys in tribal societies must pass before they reach the status of adult male. The writer enters a subterranean world outside the law—a break with the norm that parallels the liminal stage in primitive initiation. There, like people on a pilgrimage, writers

become bound together in a new community, and are introduced to rules and conventions that take precedence over those of mainstream culture, over the law, and over individual feelings and relationships. Friendships are determined by crew membership. Fights occur between people who have no personal reason for animosity, may not even have seen one another, simply because of loyalty to the crew. The paint and scarification in tribal societies—emblematic, public signs conferring status in manhood—imply an ordeal and subsequent achievement. In the same way, the writer's tag is the symbol of a new street identity, which is at one end of the continuum of achievement; at the other end, implicit in the excellence and number of murals an artist might do over entire rail cars, is the high status given to the best and the brightest.

Urban Popular Culture

The study of urban popular culture is relatively new, and American folk art has always been thought of as a rural phenomenon, so that scholars who consider aerosol art to be part of the American folk art tradition depart from the traditional model. Spray-can art is not, of course, the product of a group that shares the same ethnic heritage, occupation, or religion. It is not "community or family based arts that have endured through several generations." It is a microcosm of that model, a process that in another context might take a century has taken place in less than 20 years. In that time, perhaps seven "generations" of adolescents will succeed one another. Just as in the traditional model, the culture is transmitted from one generation to the next. Younger writers accompany their elders to the yards as apprentices and learn by observing and imitating them. A 19-year-old will take interest in a 15-year-old, teaching him his own style, hoping thereby to perpetuate it. In return, the younger writer provides small services for the older one, such as providing him with paint. In this way, several schools of painting have grown up around master artists.

Oral tradition in spray-can subculture recounts the evolution of the form, indicating all the landmark innovations and breakthrough paintings along the way. Young writers pay tribute to the famous innovators and tell of their exploits and their encounters with members of the police antigraffiti squad.

Writers have developed an internal esthetic whose processes and meanings are intended for and shared by other members of the group. The writer SKEME puts it this way: "I don't care that nobody else can read it, they're excluded. Graffiti is not for them, it's for us." The group identity is reinforced by contrast to the dominant culture. Nevertheless, the mainstream of American culture is related to the aerosol-can subculture: the art is influenced by but distinct from art in the mass media. Just as traditional folk artists use materials readily available in the environment, writers practice a sort of bricolage with found objects, recombining them in new ways. Writers build their own iconography by selecting images from the comics, TV, and advertising and reassemble them into new contexts.

The New York Art World

In 1980, the New York art world, in the midst of a reaction to the cool, intellectual, minimal and conceptual art dominating the previous decade, was ripe to embrace spray-can art. Dozens of small galleries sprang up on the lower east side of New York City that were more accessible to young artists just out of school than were the major galleries, and pioneers were establishing beachhead galleries in areas such as the South Bronx that opened channels of communication between inner-city artists and the mainstream art world and media. The style growing out of this exchange

has sometimes been described as neo-expressionism. There was art of the third world, art by children, visionaries, the mentally ill, and the socially disenfranchised, and it was an art form that freely borrowed from the mass media, comics, and television.

Although some saw the new and growing scene as a way to bypass the normal channels of the art world, the new style soon made its way into some top galleries and museums in New York and Europe. The art world was drawn to the writer by its need for continuing and renewing the romantic myth of the heroic artist. The days of shocking the bourgeoisie through a formalist attack on the conventions of established art were gone but still longed for, and writers filled this role. A position taken by some writers in the art world is that they were as unlikely to break with hallowed, formal conventions of their own subculture and risk harsh judgment of teen critics as were the most academic of painters. By the early eighties, art on the New York City trains was becoming mannered and bound in formal orthodoxy. Writers did not become avant garde figures because they broke the rules of painting, but because they broke social conventions and dearly held notions of hierarchy and authority. In addition, they painted on a heroic scale and took many physical risks to paint, providing a vicarious thrill to the art world. They became new figures in a pantheon inhabited by abstract expressionists including Jackson Pollack, a solitary figure who consumed himself in a self-destructive life, and David Smith, whose production was prodigious, unrestrained, and heroic.

When spray-can painting drew the attention of the art world in the early 1980's, hundreds of black and Hispanic teenagers began to frequent openings of art exhibits around New York City. The air was electric with expectation, with the possibility of success and celebrity, and people from the extremes of wealth and poverty saw each other up close for the first time. The encounters led to some positive ends, sometimes humorous and sometimes tragic. Kids from the ghetto were becoming familiar with the rules of etiquette and ideas of appropriate behavior of this new society. One boy, for example, took another to task for inviting a friend, who happened to be a hardened criminal, to an opening. "You don't bring a murderer to an art show," he scolded. The art dealers, for their part, committed some horrible gaffes as they grappled with the unfamiliar slang and alien value system of the writers. For example, one dealer introduced a master writer and his younger, less experienced friend, to a reporter as, "This is Mitch and his 'toy,' Med." "Toy" is a derogatory term applied to an inexperienced or incompetent writer.

The two cultures clashed. In the art world, differences were rarely settled by violence; to make a scene, unless related to a performance, might cause discomfort and embarrassment to those present. Writers, in contrast, no matter what their background, followed the rule of the street where it is dishonorable not to immediately challenge your enemy to a fight no matter where you find him. Almost without exception, those writers who became a lasting presence in the art world were those willing to act as individuals rather than as members of crews and who were willing to turn down the incentives to violence that presented themselves. But the ethos of the crew was more than fighting together; it was sharing the fruits of labor and long association, the benefits of "hanging out," the give and take that went on between members of different abilities who made different contributions; that is. "If you give me

paint, I'll put your name up." This ethos came in conflict with the economic underpinnings of the art world and its emphasis on the individual as a star. Newly discovered writer-artists attempted to bring along their crew members who were less gifted or less salable, but the attempts were overridden by practical dealers. Soul Artists, a collective representing New York City writers, tried to forestall the erosion of the collective spirit. All, who presided over the organization's meetings in 1980, pleaded with writers being courted by the art world not to enter into contracts with dealers as individuals but to allow the collective to retain some control. But a hungry and romantic art public was ready to buy, and Ali was asking too much of these artists to resist their new acceptance into the mainstream. As the price of a painting rose to \$10,000 and higher, writers quickly understood that this new, high-rolling game could be almost as satisfying as pulling out a whole car and dazzling the morning commuters and after-school crowd. Just as art on trains was an attention-grabbing visual experience, an ostentatious display of wealth or a picture on the cover of "The New York Times Magazine" would make people sit up and take notice as well.

But a sense of mutual incomprehension remained; it grew out of the idealizations and expectations of both sides that masked their views of one another. Writers who crossed over to the world of fine art felt liberated from restraints of the closed system of "folk" esthetics, but they also felt bewildered by their new freedom and uncertain about their relations with a new audience. They began to wonder what the art public wanted and, in their self-consciousness to give the public what they thought was wanted, lost the original power of their creation. Critics appeared who judged the new art as painting, not as a social phenomenon. Arthur Danto wrote the following after visiting a graffiti art show at Sidney Janis, "I was struck by the fact that they continue to paint under their noms *de metro* rather than their real names, and that their show is advertised by Janis as 'graffiti art'—as though they or the gallery had not enough confidence to display their work without benefit of a sociological excuse" (Danto 1985, p. 25). The artists who endured and continue to exhibit in galleries in 1988 are a small percentage of the group who found themselves in the limelight at the beginning of the decade. They are the ones who were able to liberate themselves from the formal restraints of piecing and to be open to the wealth of new ideas they encountered in the world of fine art.

Throughout the period in which writers were courted and then gradually ignored by the art world, things have not been static in the spray-can art world where the artists and their audience are still mainly teenagers. As a result of the media attention, movies, and books stemming from the Hip Hop craze, aerosol art is now an international movement. Just as the art world has appropriated and internalized spray-can imagery, so spray-can art now embraces a wealth of new techniques and styles resulting from contact with ideas and trends in the art world and from contact with other artists from other parts of the world. A network of exchange of ideas, photos, and personal visits is widespread. To date, little of this activity has any support from officials or funding from agencies. No one is in control... anything can happen!

A Note to Those In Authority

In the large cities where graffiti writing first became a widespread practice, the deterioration of housing and the transit system was the primary condition for its growth. The random tagging of the early days probably could not have proliferated on adequately maintained private and public property. A tag must be seen to be

effective. Reasonable certainty that it will be quickly erased means less motivation to do it. This lesson is borne out in the recent experience of the New York City Transit Authority, which has finally deployed enough car cleaners and guards to be able to run a relatively clean and graffiti-free fleet. But piecing in New York has not stopped; it has merely moved outside and is now most visible on the walls and abutments of highways and bridges.

Although a transit system is limited and defensible territory, an entire city is not, so that relying only on the hardline approach to keep every available surface guarded and clean is impractical. Neither will a lenient approach that seeks accommodation with writers be entirely successful, because writing and piecing are mass behaviors, which will not respond quickly to any of society's solutions. Encouraging communication and creating ties of mutual interest between alienated youth and other parts of society are important and so is fostering change and growth in individuals. The New York art world was one area where, briefly, such contacts were possible. Some of the writers who were successful in the art world or found work as commercial artists gave up or curtailed their illegal painting. New relationships, opportunities, recognition for their work, and the possibility of making money gave these young people self-respect and added new dimensions to their lives and incentives to stay out of trouble.

Spray-can artists do not uniformly desire to destroy. According to their own values, which are not totally antithetical to those of the establishment, they believe that their artwork enhances the subway or the neighborhood. This positive social attitude can be used to advantage, and efforts might be made to engage youth in design decisions that affect their neighborhoods. Why must adults insist on choosing what is to be painted on playground walls when the kids have developed their own imagery and command the technique to paint it themselves?

In New York City, some murals have endured for years, painted on schoolyard handball courts by respected spray-can artists, neither vandalized by jealous rivals nor destroyed by the authorities. In such cases, a consensus usually exists among the kids and other neighborhood residents, the police, and school authorities that the mural is a valuable asset, worthy of respect. These "unofficial" murals whose long life is the result of a happy confluence of talented youth and enlightened leadership should become the model for authorities everywhere who are faced with a "graffiti problem." The key to the success of these murals is that the artist is the one who controls the content of the piece, the style in which it is painted, and the materials used. Of course, not every spray-can artist is a master; when the community sponsors a mural, it must be able to control the quality and participate in choosing what is painted on its walls. But the decisionmaking process at every stage should have the active involvement of the spray-can artists and their peers. People resent being left out of decisions that affect their lives, and their stake in a community increases when they are asked to participate in its affairs.

Rebellion by youth against established values is inevitable and is an important force in a dynamic society. Some time ago, at a seminar in Barcelona, local city officials met with young spray-can artists. The officials were very agreeable and willing to give the kids permission to paint certain walls. Some of the kids were suspicious and felt that if the city gave them permission, it would also try to control the content

of their paintings. This assumption was reasonable, borne out in many instances in other cities in which officials have been reluctant to take responsibility for something they could not control. But a struggle over control of content on an officially sanctioned mural can raise the discourse to a higher plane by addressing important and instructive questions of public policy and civil rights and by engaging youth in the pursuit of their legitimate claim of free expression. Only by maintaining a dialogue with kids, and that means listening to them and respecting them, can people in authority and other adults hope to influence them.

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Suggested Reading

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Hip Hop Graffiti Writers: Ethnographic Observations on an Urban Youth Subculture

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Abstract

Almost 20 years ago, a stylistic kind of graffiti originated in the subways of New York City and has since spread to most major cities in the United States and some cities in Europe, Australia, and New Zealand. This "Hip Hop" graffiti accounts for a large share of what occurs in U.S. urban and rural areas. It is found on buses, subways, trains, buildings, bridges, in parks and forests, and on innumerable other surfaces; it ranges from signature "tags" (typically written with ink marker) to elaborate, polychrome spray-painted murals. This paper is an exploratory ethnographic study of writers of Hip Hop graffiti based on participant-observation methods. The primary foci are on the basic types of Hip Hop graffiti, characteristics of the writers, and predominant values of the subculture—fame, artistic expression, power, and rebellion. Policy implications are discussed.

Keywords: Graffiti, ethnography, Seattle, urban youth subculture.

Introduction

Aerosol King Stash 1's my title. What I want is for me to become your idol. I don't want to sound conceited, but please understand it's just an honorary feeling knowing I have fans!!

—Message on "Stash City" (Seattle) piece by
Stash One (now Stash Five), 1987

Urban and rural managers wrestle daily with drawings and inscriptions—otherwise known as graffiti—on surfaces. In urban spaces, areas commonly targeted for graffiti include schools, parks, transit stations, public works, utilities, neighborhoods, and businesses (see Bell and others. Winter, this volume). In rural areas, parks, forests and refuges, and private lands are targets. Campgrounds are frequently hard hit; people carve on trees and picnic tables, inscribe on interpretive and directional bulletin boards; and write on walls of facilities. In cultural resource settings, graffiti extend to inscriptions and drawings on historic cabins, petroglyphs, pictographs, and prehistoric caves—all of which are irreplaceable resources (see Downer, Higgins, this volume).

Although much attention has been devoted to materials and methods related to destruction of property (Powers and Rosen 1984), relatively little has been written about the perpetrators themselves. This study focuses on a particular subculture¹ and introduces information not presented elsewhere in the literature.

The rationale for this study was to generate information about a subculture predominantly responsible for writing and painting on public and private surfaces. Understanding and explaining the subculture better by answering such questions as "Who are they? What are they doing and why?" may suggest more effective management practices. In other words, understanding motivations and values of perpetrators can provide insights into methods for graffiti control and may specifically provide opportunities for dialogue and negotiations between writers and authorities. What are the antisocial behaviors, perceptions, and values? What are the dynamics of changing antisocial behavior to prosocial behavior? Thus, the purpose of this paper is to identify several features of Hip Hop² graffiti: the basic types, the social characteristics of the writers, and the predominant values of the subculture.

¹In this paper, we approach the study of culture from a cognitive perspective, after the thinking of Ward G. Goodenough (1957):

A society's culture consists of whatever it is one has to know or believe in order to operate in a manner acceptable to its members, and to do so in any role that they accept for any of themselves. Culture, being what people have to learn as distinct from their biological heritage, must consist of the end product of learning: knowledge, in a most general, if relative, sense of the term. By this definition, we should note that culture is not a maternal phenomenon; it does not consist of things, people, behavior, or emotions. It is rather an organization of these things. It is the forms of things that people have in mind, their models for perceiving, relating, and otherwise interpreting them.

²"Hip Hop graffiti" is used in this paper to describe the whole Hip Hop writing phenomenon in general. No other term encompasses the whole subject accurately. The word 'graffiti' is used here in a neutral context—no negative connotations are intended.

Historical Overview

The origins of Hip Hop graffiti extend back to the late 1960's when a few people began to write their "tags" (stylized signatures) on walls, trucks, and other surfaces throughout New York City and Philadelphia. By the early 1970's, New York City had become the capital of Hip Hop graffiti (Castleman 1982, Kurlansky and others 1974, New York Magazine 1973). Writers designated the subway system as the main arena for Hip Hop graffiti, where the subculture matured into a significant sociocultural force.

The early period of Hip Hop graffiti was characterized by stylistic and technological development. "As hundreds of new writers emerged...new emphasis began to be placed on style, on 'making your name sing' among all those other names" (Castleman 1982, p. 53). "When style alone failed to distinguish individual names from the general welter of tags, writers began to concentrate on development of size and color" (Castleman 1982, p. 55), leading to the creation of "throw-ups" (spray-painted, bubble-lettered logos) and "pieces" (mural paintings) by 1972. Writers used technological innovations to refine their writings further. They put caps from aerosol products (such as spray cans for cleaning ovens) on spray paint cans for a wide, even spray, well suited to painting large areas and making sharp outlines. They adapted markers (by adding stronger inks) to make wider, multicolored, or virtually indelible marks.

The Hip Hop subculture was firmly established by 1972, and its movement into areas other than the subways demonstrated the subculture's growing prevalence. The founding of two organizations, United Graffiti Artists (UGA) and Nation of Graffiti Artists (NOGA), marked the first attempts to organize and legitimize writers as artists. The UGA and NOGA helped young writers by providing studio space and art materials and sponsoring showings of paintings.

In the mid-1970's, two younger inner-city traditions, break dancing and rap music, were combined with graffiti to form an identifiable Hip Hop subculture.³ The interconnectedness of the three Hip Hop traditions is demonstrated by the fact that some writers are rappers or breakers or both, such as the famous New York City examples of Phase 2, Fab Five Freddy, and Doze. Mutual respect is felt between rappers, breakers, and writers, because they are all exponents of the same cultural movement. Moreover, Hip Hop performances many times incorporate the activities of all three. Although the majority of writers identify with and are involved in the whole Hip Hop subculture, some writers are interested only in Hip Hop's graffiti-writing aspect and do not participate in other facets of the subculture.

Toward the end of the 1970's, Hip Hop graffiti (especially pieces) began to appear above ground, on walls and handball courts rather than primarily in the subway system. Throughout the 1970's and into the 1980's, the Hip Hop subculture became more firmly entrenched in spite of increasing municipal efforts, such as antigraffiti

Hip Hop, a rhythmic term that echoes the rebellious post-World-War-II jazz form bebop, has become the catchall word of this culture. "Hip Hop," says break-dance historian Sally Banes, "was originally born of kids evolving their own social networks, from crawls to karate clubs, making their own dances, poetry, and music, in an attempt to make a harsh, cruel, often incomprehensible city a livable environment" (Nelson and others 1985).

police units, attack dogs at train yards, and chemical "buffing" washes on the outside of trains to end their activities. Writers continued to write as much as, if not more than they did before deterrence measures were enacted.

In the early 1980's, several writers entered the international art world and had gallery showings of their paintings done on canvas. Some of these writers took advantage of legitimate opportunities and joined the establishment art scene by becoming studio artists. The vast majority of writers, however, continued to write illegally, keeping their subculture and ethos intact and resisting values of conventional society.⁴

By now, Hip Hop subculture is nearly a decade old; break-dancing groups and rap musicians tour the United States and around the world. Movies, a documentary, and books introducing the subculture are circulated in almost all major U.S. cities and in some metropolitan centers in Europe, Australia, and New Zealand (Chalfant and Prigoff 1987).

Today, the practice of Hip Hop graffiti is learned from peers and is mainly perpetuated that way, though the media play a sustaining role in the subculture. Mainstream television shows, movies, and music videos (particularly those with rap musicians) sometimes have Hip Hop backdrops, if only for a few brief moments, which usually present the subculture as appealing, exciting, and favorable. Books, written and photographed by Chalfant and associates (Cooper and Chalfant 1984, Chalfant and Prigoff 1987) act as models for aspiring writers, and two magazines titled "Intergalactic Get Hip Times" and "Ghetto Art" document and promote the evolution of the Hip Hop subculture.

Theoretical Perspective Any one theoretical perspective may not be adequate in itself to fully account for recruitment into, participation in, and prevention of deviant⁵ subcultures; thus, the tentative framework presented here attempts to link together aspects of various deviance theories.

We propose a three-part model that explains a person's involvement in a deviant subculture. First, the potential participant must be exposed to the process of **cultural transmission** involving differential association. This means that through interactions with peers, the person comes to perceive the subculture's deviance as being more favorable than unfavorable (Sutherland and Cressey 1978). Many others, although similarly exposed to the subculture, may still find the subculture's deviance negative and choose not to belong. Second, the potential participant faces the issue of **opportunity**. Implicit in the cultural transmission perspective is that the potential participant has the opportunity to be exposed to and involved in the deviant subculture. If a person does not know that a specific subculture exists or where it exists, then that person's participation in it is impossible (Cloward and Ohlin 1960).

⁴ For a discussion on the internal expansion of the movement, see Nelson and others (1985).

⁵ In this paper, the term "deviant" is used in a sociological sense and simply means the breaking of a particular group's rules. Specifically, Hip Hop graffiti writers violate conventional and legally defined norms. For an introduction to the sociology of deviance, see Becker (1963), Rubington and Weinberg (1968), and Spiegel and Keith-Spiegel (1973).

As important as access to illegitimate means (the deviant subculture) is the availability of legitimate means. If the values expressed in the subculture are congruent with the potential participant's (and they often may not be), then the opportunity to express these values in legitimate, conventional ways, if possible, is a critical factor. Merton (1938, p. 141) asserts that deviant behavior "may be viewed as a symptom of dissociation between culturally defined aspirations [values] and socially structured [legitimate] means." If the conventional avenues for expressing values are blocked to an individual, that person will turn to deviant modes of expressing them. Third, to move from being a potential participant to being an actual one in a deviant subculture, a person must let go of the bond to conventional society. The elements of this bond, according to control theorist Hirschi (1969), are **attachment** to conventional others, **commitment** to conventional lines of behavior (including fear of consequences of deviant behavior), **involvement** in conventional activities, and **belief** in the rules of conventional society. The greater the degree to which these elements are attenuated, the greater the likelihood of deviant behavior.

A related perspective is the social development model that seeks to explain delinquent behavior and drug abuse (Catalano and Hawkins 1986).⁶ This model integrates social learning theory (Bandura 1973, 1977) and control theory (Hindeland 1973, Hirschi 1969, Nye 1958, Reiss 1951). One of the special features about this model is that it stages intervention points during the various cycles of human development (preschool, elementary school, middle school, and high school periods) to reduce delinquent behavior and drug abuse. Developmental stage is an important aspect for our case study: Hip Hop writers begin writing and painting in their early years. Intervening at an early stage to promote legitimate opportunities and teach them skills is promising, according to the social development model.

Our three-step model fits Hip Hop graffiti writers well. The process of cultural transmission, namely differential association, is the underlying force moving potential writers toward the subculture. Significant exposure to the subculture through books, the media, or learning from peers who write may cause a potential writer to accept definitions that are opposed to norms of conventional society. Continued association with the subculture, after the other two conditions are met, leads to socialization in the subculture. Exposure to the subculture itself is a question of opportunity: cultural transmission is limited to where books are sold, media presentations concerning Hip Hop graffiti are aired or printed, and writers are living or visiting.

If a potential writer shares some or all of the values in the subculture, then the crucial issue is the opportunity to express such values in conventional ways. Some social environments such as the inner city do not sufficiently supply all inhabitants conventional outlets for expressing these values, which further draw some potential writers to the Hip Hop subculture.

The final prerequisite to be satisfied for a potential writer to participate in the Hip Hop subculture is a markedly weak bond to conventional society. The two most important elements of this bond for potential writers are commitment and involvement. A

⁶ Paper presented by Richard F. Catalano and J. David Hawkins at the SAFECO Lectureship on Crime and Delinquency at the University of Washington School of Social Work, Seattle, November 1986.

potential writer who is young and from a social-cultural-economic background that is disadvantaged may have a weak commitment to conventional society, especially if that person does not participate in many conventional activities. The weak commitment and involvement, in turn, produce a loose bond to conventional society. Similarly, when participating writers increase their commitment and involvement (by gaining employment, attending college, entering the military, getting married, facing adult penalties for criminal violations), they mainly tend to exit the Hip Hop subculture.

Method

Ethnography is a research method used by social scientists to develop a holistic perspective on a social or cultural group. Ethnographic praxis relies on data collection techniques variously associated by cultural anthropologists with **participant observation** (Agar 1980, Spradley 1980), by political scientists with **elite interviewing** (Dexter 1970), and by sociologists with **qualitative research** (Kirk and Miller 1986). These methods always entail the interaction of the observer with people studied on their own turf and in their own language.

Between May 1987 and March 1988, ethnographic fieldwork was done by the lead author to identify the basic types of graffiti, the characteristics of Hip Hop writers in Seattle, and the predominant values of the subculture. Strategies included "hanging out" and conversing with writers and those associated with Hip Hop writers in both writing and nonwriting contexts; talking to writers over the telephone; witnessing and photodocumenting "pieces" being painted (both legal and illegal); corresponding with two Hip Hop graffiti magazines; and photographing all forms of Hip Hop graffiti throughout the Seattle, Spokane, and Phoenix metropolitan areas.

Results

Types

Hip Hop graffiti should not be confused with graffiti written by Cholo, drug, or other formal gangs. Hip Hop graffiti, in contrast, is distinct in both form and function and has three basic types—"tags," "throw-ups," and "pieces." **Tags**, the simplest and most elemental form, are stylized signatures written in marker, spray paint, grease pencil, or shoe polish; they represent the writer's chosen, self-fashioned street name (fig.1).

The tag may incorporate symbols such as crosses, crowns, stars, arrows, dollar signs, underlines, halos, and copyright symbols with the current year. Some Seattle writers draw simple self-portraits next to their tags. Tags often are accompanied by abbreviations of the names of the crew(s) (writing groups) the writer belongs to. Writers strive to write a tag quickly and in fluid motions. In Seattle, some variations of tags have been recently introduced, although they are not restricted to Seattle: tags written on stickers are used for furtive tags, and "engravings" (scratches made with sharp rocks or metal objects, typically on glass and metal surfaces) are valued for their permanence despite their low visibility. Tags, the most prevalent kind of Hip Hop graffiti, are generally found in Seattle on outdoor walls, signs, bus shelters, and buses (generally in inner-city areas); because they are written quickly, they can be done in semipublic places such as inside a partially occupied bus. Hip Hop graffiti occur in similar locations in other cities, usually concentrated on transit systems and inner-city walls.



Figure 1—Tags.

Throw-ups are larger and more noticeable than tags, and take more time to execute (fig. 2). They are usually two- or three-letter names formed in bubble style. In most cities, throw-ups are found mainly on walls and the outsides of trains (Castleman 1982). Although throw-ups are uncommon in Seattle, some Seattle writers use a throw-up style of tags in which they draw the outlines but do not fill them in.

Pieces (derived from "masterpiece") or "paintings," are the most developed form of Hip Hop graffiti (fig. 3). They are large, elaborate, multicolored murals depicting a word or words, usually the writer's name but often include backgrounds, designs, characters, the writer's tag, messages, or comments. Spray painted with at least two colors (but almost always three or more), they range from several feet square (as on the side of a building) to several hundred feet wide (such as on wall panels at a construction site). Most pieces require 10 or more cans of paint and 2 or more hours to complete. Therefore, if done illegally, as most pieces are, they must be done in places with little, if any, human traffic for the writers to avoid arrest and concentrate on painting. Likewise, pieces in Seattle are often painted at night and in such areas as alleys, parks, schools, and railroad rights-of-way.

Social Characteristics

Hip Hop writers in general can be profiled according to demographic characteristics of the Hip Hop subculture. They commonly range from 12 to 20 years in age, yet some writers begin younger and some writers continue writing into their late twenties and early thirties. Most writers are male, although about 1 to 5 percent of the writers are female. Most writers live in the inner city; however, some reside in the suburbs (often traveling to the city to write) or in more affluent middle- and upper-class neighborhoods. Likewise, most writers come from lower- and working-class backgrounds and some from middle- or upper-class families. The majority of writers are racial and



Figure 2—Throw-up.



Figure 3—Piece.

ethnic minorities. Blacks and Hispanics are most frequently represented because the whole Hip Hop subculture was created, perpetuated, and received mainly by black and Hispanic youth. Nevertheless, whites and Asians do belong to the subculture.

Values

The impulses to write are manifested by the values of the Hip Hop subculture. The acting out of these values can be explained by this summarization: people "write [Hip Hop] graffiti because it's fun" (Chalfant and Prigoff 1987, p. 7). Four major values are apparent in the Hip Hop subculture in Seattle, although other values may be identified with further research: fame, artistic expression, power, and rebellion. The extent to which these values match the needs and desires of potential writers (which is indirectly related to the degree of association and rewards they receive from actual writers) determines whether a person will start to write, assuming that the person has become familiar with the Hip Hop subculture and does not feel "pulls" from conventional society. Several dimensions of values found elsewhere fit the Seattle subculture.

Fame—Fame, the most important value in the Hip Hop subculture, is achieved by "getting up," or the process of writing as much graffiti as possible, in which writers compete against each other for status. This competition has four basic dimensions: style, quantity, exposure, and placement.

Ever since style originated early in Hip Hop's history to make the writer's name more noticeable, it has been an essential criterion for earning fame and raising one's status in the subculture. Impressive style alone, however, has not been enough to ensure a writer's good reputation until recently, when style has increasingly become the dominant factor determining fame (Chalfant and Prigoff 1987). Writers frequently attempt to paint "burners" or pieces that prove their superior artistic imagination and technical competence. A specific consequence of this aim is the contest of "battling." In "battling," one writer faces off against another writer, in response to a challenge, trying to paint a stylistically better piece (as judged by the battling and nonbattling writers).

Another major aspect affecting which writers are recognized and respected is the sheer quantity of Hip Hop graffiti that a writer writes. To create the impression of "getting up a lot," a writer must be prolific, which requires dedication, discipline, and hard work. This task is made even more difficult by the "buffing" of their writing. Writers acknowledge the impermanence of their work, and they often dispute the real effectiveness of buffing programs in deterring their writing. Techniques such as going for long walks for tag and nighttime writing ventures are necessary for any writer wishing an appreciable share of fame.

Related to the principle of quantity is the idea of exposure. Writers carefully choose where they will write based on whether other writers (and to a lesser degree, the general public) will see their writing. Thus, writers logically target public transit systems, which are perhaps the most convenient, widely circulating surfaces on which to write. Likewise, to guarantee exposure, writers often write at places routinely frequented by other writers: schools, neighborhoods, parks, and so on. This desire to get exposure is the second part of the explanation of the "tags-attract-tags" pheno-

menon. One additional way of receiving fame is to have one's writing pictured in newspapers, magazines, books, movies, or on television.

A writer gains respect from other writers through the actual physical placement of graffiti. Hip Hop graffiti written on places difficult and dangerous to access (such as building roofs, train tunnels, freeway overpasses, and signs high above the ground), property of authority figures (such as police cars), or obscure or unlikely targets (such as remote parks), if ever noticed, attest to the writer's ingenuity, courage, and mobility.

Artistic Expression—Artistic expression is another primary concern of writers, evidenced by the concept of style, writers' perceptions of Hip Hop graffiti, and significant nonwriters' perceptions. The term "style" refers to "form, the shapes of the letters, and how they connect" (Cooper and Chalfant 1984, p.66). All writers try to develop style, including taggers who, when not writing Hip Hop graffiti illegally, may spend hours at a time practicing and perfecting their tags on paper. Originality and creativity, often illustrated by a writer's written command to other writers ("Don't bite!"), are valued highly by writers.

Just as elite writers see themselves first of all as artists, most taggers view their own writing as having some sort of esthetic appeal. Writers' comments on their work and the names of such crews as United Artists, State of Da Art, West Coast Artists, and Rain City Artists exhibit the writers' self-perception. Writers of all classes tend to be interested in art in general and may actively participate (in school, for instance) in other kinds of painting, drawing, and design activities. In recent years, many elite writers refuse to call their painting "graffiti," a word they feel is tainted with negative connotations. Instead, terms like Hip Hop Art, Newave Art, Aerosol Art, and Spraycan Art are now commonly used. Hip Hop graffiti communicates identity, images, and messages. These expressions are as varied as the writers: cartoon figures, messages with political tones ("Stop the Bomb"), and messages celebrating Hip Hop culture ("Fresh Art") or celebrating the writer ("King Cool") are among the multitude of thoughts and feelings conveyed in Hip Hop graffiti.

Moreover, writers treat their work as art. Elite writers often consider themselves public artists and their writing a positive community service. They see their painting as beautifying the environment (Chalfant and Prigoff 1987). In most pieces, for example, writers write their tag signature, a copyright symbol with the current year, and a dedication. Not only do most writers make elaborate sketches of their pieces, complete with color specifications, but they also usually take photographs (if they own cameras) of their work to add to their photo album records of their paintings.

Hip Hop graffiti have gained acceptance and even acclaim in certain parts of conventional society. Not all writing and painting is done illegally. Elite writers sometimes paint canvases, walls, and cars (in Hip Hop graffiti lettering or abstract spray-can style) for themselves and their families and friends. Storeowners, business firms, nightclubs, community arts projects, private citizens, and other patrons occasionally commission writers to paint signs and walls in the style of Hip Hop graffiti. Writers are also hired to design, draw, and paint logos, posters, record covers, clothing, and television studio sets, among many other things. As mentioned earlier, the subcul-

ture has made considerable inroads into the conventional art world. Since the early 1970's, a market has existed for canvases, gallery shows, and photo books.

Power—Many writers, especially those in the inner city, live in environments in which people do not own or control much property, in either an actual or a symbolic sense. Writers' feel that opportunities to express power in conventional ways in their communities are limited. Hip Hop graffiti, then, is a symbolic response to such "perceived" powerlessness. It is a personal claim to the surfaces written on, which are most often those either seemingly controlled by no one (abandoned buildings, cement walls, neglected property) or apparently never to be controlled by the writers (schools, public transportation, businesses, paid advertising). In this sense, writing can be seen as partly a territorial phenomenon. The more a writer writes, the more the writer comes to dominate and symbolically "own" an area of a city.

Hip Hop graffiti are also statements that say, "I am somebody and I was here." Therefore, "going over" another writer's work is a very disrespectful act that means, "You are nobody and I am better than you." This act can provoke a cross-out "war" between individual writers or crews who go over each other's work. A writer who is insecure in status in the subculture may go over other, more accomplished writers' work in mainly unsuccessful attempts to raise his or her own standing. Going over can further function as art criticism.

On an even more abstract level, Hip Hop graffiti represents group power. Seeing a surface, such as a bus, "totally bombed" delights most writers, even though none of the graffiti may be theirs, because they identify with other writers' expressions of power (among the other values expressed) and celebrate the affirmation of the subculture's strength and presence. The underlying meaning of such reactions can be interpreted as "We are somebody—we are a force to be reckoned with." This aspect of identifying with group power is one component of the "tags attract tags" (or "Hip Hop graffiti attract Hip Hop graffiti") phenomenon as writers write near others' graffiti to participate in this expression of group power.

Rebellion—Not only are Hip Hop graffiti displays of power, but they also demonstrate rebellion against some conventional norms. Hip Hop graffiti "is a retaliation, a response to an environment that doesn't give them (the writers) places to go, doesn't provide them with many avenues to have their creative needs met" (New York Times 1987, p.6). The writers' response of constructing their own avenues to meet their needs is often answered by their being condemned or negatively labeled as criminals and vandals by the general public and authorities. Writers acknowledge their deviance from conventional society, although they do not believe Hip Hop graffiti to be an act noteworthy enough to warrant police attention (Chalfant and Prigoff 1987, Cooper and Chalfant 1984). Although some writers may enjoy breaking the law, they do not wish to be arrested, and it is a matter of pride never to have been caught. "If it were . . . legal, it wouldn't be the same." (Gablik 1982, p. 36); "it's not cool . . . to get permission to paint" (Chalfant and Prigoff 1987, p. 89). Seattle writers share this view that illegal graffiti are more highly esteemed than work done legally.

Despite wishing to avoid being branded and treated as criminals by conventional society, writers perceive themselves as outlaws, sometimes perhaps dramatically,

and they generally want to convey a tough street image to other writers with their graffiti. The names of crews illustrate this mixture of writers' acceptance of deviant labels with the outlaw self-image such as the "Ex-Vandals," "Partners in Crime," and "Leaders of Rebellious Destruction" (Castleman 1982). The Hip Hop outlaw ethos involves some criminal behaviors. Writers are usually expected to "rack up" their materials, and they occasionally must trespass to do their writing. Furthermore, militaristic terms permeate Hip Hop language—bomb, hit, destroy, kill, tag (from dog tag), and style wars (Beeren and Schoon 1983).

Discussion

Currently, public policy seeks to reduce graffiti in four ways: subtle prevention, explicit prevention, criminalization, and "buffing" (erasing). Subtle prevention uses environmental designs that seek to inhibit graffiti. Here, the idea is to "design it out" and "reduce the opportunity" for writers. Applying target-hardened materials is another way to discourage graffiti, although many writers feel they can write on practically any surface. Sometimes, surfaces are made graffiti-proof or graffiti-resistant with special paints, chemicals, and metals. This alternative has become increasingly popular with municipal authorities because "paints and inks have become progressively longer lasting" (Costigan 1985, p. 144).

The promotion of murals (non-Hip Hop) that cover large surfaces is believed to mitigate illegal graffiti. Although murals may discourage other kinds of graffiti writers, Hip Hop writers often may not respect murals that do not reflect their values and, therefore (although this has not been empirically tested), may "go over" them (Chalfant and Prigoff 1987). In contrast, environmental designs may be effective only if at-risk graffiti targets are out of physical reach or are clearly visible to passersby. The real effectiveness of murals in general and the use of target-hardened materials in particular has not been evaluated.

Explicit prevention by authorities focuses on security measures such as using guard dogs in the train yards of New York City, security guards, or barbed-wire fences. Frequently, these deterrents foil only a few writers.

A major way in which communities and managers of public agencies have tried to control and eliminate Hip Hop graffiti is by focusing on the writers themselves—a deterrent known as criminalization. In most cities, law enforcement agencies typically apprehend writers through routine police patrols; however, some cities have used antigraffiti police units, "report-a-graffiti-writer" hotlines, and informants (who are almost always writers themselves). But, as one police officer admits, "Police surveillance doesn't work. It's an expensive misuse of police power." (Scigliano 1987, p. 29). The use of police surveillance has not been evaluated for its effectiveness in mitigating graffiti.

Buffing is used not only for restoring marked surfaces to their original appearance but also as a method of control. Examples of buffing include the Metropolitan Transit Authority's (New York C'ty) chemical train wash and Seattle's paint-out programs organized by municipal authorities and community groups. Many cities have instituted paint-out programs. These buffing programs operate on the assumption that if graffiti are buffed before other writers see them, the writer's goal for writing remains unfulfilled. This notion has been widely tested about litter and carving on tables—the

prevalence of litter and carving does invite more litter or more carving (Samdahl and Christensen 1985). As was mentioned earlier, however, writers expect much of their writing to get buffed, and increased buffing may only kindle writers' drives to get up even more. Buffing also provides writers with a clean slate on which to write again (Scigliano 1987). Consistent buffing of a particular area or surface may decrease the amount of Hip Hop graffiti in that area, but it may be accompanied by an increase of graffiti in other areas. Writers continually look for places that allow a little more permanence to their writing. Therefore, for a buffing program's impact to be felt among writers, it must be comprehensive, continual, and ongoing.

Conclusions

We have attempted in this paper to describe the dynamics of the Hip Hop graffiti subculture; specifically, the values, behaviors, and perceptions of the young writers. This ethnography was exploratory and provided new information about a subculture heretofore lacking empirical study. We determined that the Seattle variant on the subculture as it exists today is not at variance with the Hip Hop graffiti subculture as a whole, except as noted.

Five major points emerged from this study:

- Fame, artistic expression, power, and rebellion are significant values to Hip Hop graffitiwriters.
- Writers place high value in writing on spaces difficult and dangerous to access.
- Writers convey social identities, images, and messages through their tags, throw-ups, and pieces.
- In some circumstances, writers consider their work as art.
- The values of the subculture are in conflict with majority values.

From a policy point of view, managers, landowners, and the public (conventional society) want public and private surfaces undefiled by graffiti artists. Neighborhoods and businesses want to know how to reduce unattractive, illegal writings on surfaces they are responsible for or live in.

Because graffiti writers perceive their activities (legal or illegal) as a challenge and as a creative and legitimate activity, change may depend on creating a climate for dialogue between writers and representatives from conventional society.

Educational programs by managers and communities that seek to instill pride in the environment suggest to writers that the cost of cleaning up Hip Hop graffiti is high or that writing is simply "bad." The writers, however, are proud of their work. Educational programs emphasizing the cost of removing graffiti and attaching negative labels to writers can act as incentives for rebellion, a major subculture value. Getting tough on crime and delinquency by itself will not begin to extinguish graffiti.

What are potential avenues for resolution? Providing legitimate opportunities to writers should be explored further. Possibilities include spray-can art clubs at

schools, community art projects involving writers, promoted gallery showings of Hip Hop graffiti, space on exteriors of metropolitan transit for commissioned pieces, walls and materials for writing supplied by communities, and contests with scholarships to colleges and art schools. Writing then becomes a means to leave the inner city when success has been achieved. Such programs are likely to reduce some illegal graffiti. These constructive approaches could build prosocial values among graffiti writers.

Factors necessary for prevention of delinquency for any deviant group include opportunity, skills, rewards, and bonding to conventional society. To extinguish or reduce graffiti, Hip Hop writers need opportunities for involvement in conventional activities and interaction with others who are prosocial, skills for involvement in such activities, and the perception that rewards are forthcoming from these activities (Catalano and Hawkins 1986). As a result, bonding to conventional society and prosocial behavior follows—education and a rewarding career in creative arts.

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The Cherry Question or the Role of Social Science Research in Designing Against Vandalism

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Abstract

Historical annals provide evidence that vandalism, defined as willful damage to or destruction of property owned by others, is not a novel phenomenon, but one going back to ancient times. This observation may make contemporary observers skeptical about possibilities to stem what seems to be a rising tide of vandalism; however, the fact is that vandalism does not occur everywhere, and in places where it does happen, it doesn't necessarily happen all the time. Hence, vandalism is an intermittent behavioral and environmental outcome that can be seen as a function of some set of independent and interacting variables. Research can assist in identifying these variables and providing insight to interrelations, thereby suggesting prevention rather than ex post facto responses to vandalism.

Because so much vandalism is directed against the built environment, inquiring about ways that research can help reduce the likelihood of vandalism is appropriate. This paper explores past and potential contributions of such research, examines several difficulties in collaboration between social scientists and environmental designers, and suggests some strategies for overcoming these difficulties. The conclusion stresses limitations inherent in the built environmental approach.

Keywords: Vandalism, behavior, environment, historical, research, built environment.

Introduction

A few years ago, I was asked to prepare a state-of-the-art review of vandalism (Van Vliet 1984). I structured that review around what then seemed to be several salient questions: Who are vandals? What are the targets of vandalism? What are the costs of vandalism? What are the reasons behind vandalism? What can be done to prevent it?

Several hundred publications produced ready answers to some of these questions, here updated with more recent information. Who are vandals? The FBI (U.S. Bureau of Investigation 1987) reports that in the United States in 1986 more than 600 apprehended vandals were 65 or older, about 100 of them women. However, although vandals seem to be aging, the typical vandal is not an elderly person. Assuming that the 10 percent getting caught resembles the 90 percent escaping arrest, most vandals are young. In 1986, 72 percent were less than 25 years old (see table 1). Also, by far most vandals (about 90 percent) are males, although the proportion of women is increasing. Beyond that, vandals are found in rural areas and suburbs as well as inner cities, among middle-class as well as working-class families, and in all ethnic groups.

What gets vandalized? We don't need to look far: parks, playgrounds, schools, public transportation facilities, dormitories, libraries, correctional institutions, places of worship, art work, archeological sites, housing, cars, street signs, phone booths, and so forth. In short, just about everything gets vandalized.

What are the costs of vandalism? Table 2 shows data mostly collected several years ago; a more precise estimate of current costs would require adjustments for inflation. Even without such adjustments, the costs are clearly staggering. Of course, costs are not only monetary but also include mental anguish and suffering in physical health of those victimized, loss of irreplaceable historical artifacts, destruction of unique objects of art, and other similarly less tangible consequences.

Answers to the other questions were not as obvious. Useful typologies of vandalism are available that are descriptive of the motives behind different types of vandalism. Best known is perhaps Cohen's (1973) typology, which distinguishes among, for example, acquisitive vandalism, tactical vandalism, vindictive vandalism, and ideological vandalism, as well as several other types. Such typologies are useful taxonomies that suggest researchable hypotheses. They do not, however, articulate structured variations in the etiology of vandalism; that is, they do not specify the antecedent circumstances and dynamics that result in one type of vandalism, rather than another or none at all.¹

The final question—What can be done to stop or at least reduce vandalism?—proved even harder to answer. Numerous approaches have been tried. Very few have been systematically evaluated on effectiveness. What seemed to work in one place, could not always be successfully replicated in another.

¹ An exception is the model developed by Fisher and Baron (1982) that conceptualizes vandalism as arising in situations of inequity, contingent on various primary and secondary moderating factors. The model awaits empirical testing.

Table 1 - Selected characteristics of arrested vandals during 1986

Variable	Category	Percent
Age	<25	72
	<21	58
	<18	43
	<15	20
Sex	Male 1986	90
	Male 1964	94
Ethnic Origin	White	70
	Black	20
	Hispanic	9
Rate by Community Size"	>250,000	118.8
	10,000-249,999	134.4-139.2
	<10,000	151.7

Arrests per 100,000 inhabitants.

"Source: U.S. Bureau of Investigation 1987.

Table 2 - Estimated financial cost of repair and replacement resulting from vandalism

Year	Amount of damage (\$)	Environment	Source
1975	1 to 5 billion	Schools, parks, recreation areas, public housing, and transit systems	U.S. Senate Judiciary Subcommittee (1975)
1978	460 million or \$13 per student	Schools	Commission on Crime and Delinquency (n.d.)
1979	1 billion	General	Commission on Crime and Delinquency (n.d.)
1986	1.15 billion	General (arson)	U.S. Bureau of Investigation (1987)
1986	\$2,020 = avg. incurred loss	General	Insurance Services Office (1988)

About six years passed since that review of the literature when I was asked whether I was interested in reassessing the situation for this symposium. I appreciated the opportunity, but I was not sure that I could share useful insights on significant new developments with an audience more familiar with these developments than I was.

From my perspective, little had changed. In 1982, the most popular form of acquisitive vandalism involving automobiles seemed to concern hubcaps and stereos. In 1987, according to the Wall Street Journal (Blumenthal 1987), T-tops are taking first place. These glass-and-steel roof tops are apparently more profitable: According to an informed source, four heavy wire hubcaps have to be swiped to make maybe \$50.00, whereas T-tops will net \$150.00 to \$200.00 at a junkyard. The object has changed, but the behavior is the same.

The literature contains many examples showing that vandalism has a long history. Several years ago, Jim Wise (1982) started an article on vandalism with the observation that the first thing planted in the garden of Eden was the human foot. The tombs of the Egyptian pharaohs were vandalized acquisitively, and the ruins of Pompeii contain evidence of graffiti.

The Cherry Question

The realization that vandalism has been so persistent throughout human history may make one skeptical about the possibility of doing something about it. Certainly, it made me wonder about the role of research, reminding me of an anecdotal experience several years ago. At that time, I was ravenously waiting in line to assemble lunch in a self-service cafeteria. In front of me were two other patrons engaged in animated discussion on the pros and cons of having a red versus a green cherry on top of the pastry they had set their eyes on. The unresolved issue not only separated me from my lunch, but it also struck me as a perfect example of complete and utter irrelevance. Back to vandalism, the question arises: "Is research a cherry?" or, "What is the significance of research, if any, in the prevention of vandalism?"

This paper examines this question. It does not offer a definitive answer, but it suggests useful roles for vandalism research and considers difficulties associated with applying the research results. To focus the discussion on a general target of vandalism, the paper is oriented to research on the built environment, although much will have broader applicability. As a preface to this discussion, a modern version of an old fable is instructive (Van Vliet 1985). As all good fables should, this one has a moral.

A Fable and a Moral

Once upon a time there was a great Master Planner who had accomplished everything he wanted, with one exception. In his long and distinguished career, he had never been able to plan a perfect environment for young people, no matter how hard he had tried, and his last wish was to do just that. Shortly before the Master Planner died, a fairy appeared to him and told him about a distant place that was an ideal community for children. The only way to reach this place was through an underground tunnel. To enter this tunnel, one had to open one of two doors. If one opened the wrong door, there came out of it a voracious tiger, the fiercest and most cruel that could be imagined, which would immediately tear the visitor to pieces; but if one opened the right door, there came forth from it a group of children, the happiest, healthiest, and brightest ones possible.

So which door to open? Before the Master Planner could make up his mind, he was fatally struck by a heart attack. Master Planner that he was, he had left some final instructions on his dictaphone. In those last words, he declared that a villa would be

awarded to the person who opened the right door. Because there was a severe housing shortage, many applied. After a rigorous selection process, only three candidates remained; one, a psychologist, the second, a sociologist, and the third, a planner.

The psychologist had a change of heart. He refused to take a chance. He lived safely and died of old age.

The sociologist hired risk-assessment consultants. He collected all the available data on children and tiger populations. He brought in sophisticated technology to listen for growling and to detect the faintest whiff of bubble gum. He completed checklists. He developed a utility function and assessed his risk aversiveness. Finally, sensing that the children would soon be grown-ups, he opened the optimal door—and was eaten by a low-probability tiger.

The planner took a course in tiger taming. He opened a door at random and was eaten by the children.

Several morals can be drawn from this fable. The one intended here suggests that no sure way will create a vandalproof environment. An element of uncertainty always exists over whether any given antivandalism program will be fully effective.

Common Responses to Vandalism

Before turning to the role of research against this background, let us consider briefly some fairly typical vandalism situations and steps taken:

- A school gym is flooded. The principal launches an investigation. The culprits are apprehended. A restitution arrangement is worked out.
- A string of shop-window smashings occurs in the downtown area. The Merchants Association starts a "Put the Brakes on Vandalism" public-awareness campaign.
- Trash receptacles are vandalized. The Public Works Department replaces them with a stronger type. They, too, get vandalized. Public Works then removes trash receptacles altogether.

The preceding examples were for purposes of illustration only. Many more could be given. The common element shared by these instances is that they are ad hoc and ex post facto responses, like trying to lock the barn door after the horse has bolted. Instead of such reactive measures, proactive prevention would be much preferable. To prevent vandalism or, more precisely, to reduce its likelihood, requires an understanding of the variables contributing to its occurrence—and here is where research may serve a useful purpose.

Types of Research

In what follows, I will distinguish among three chief types of research on vandalism, giving examples of each.

Descriptive Research

In its simplest form, vandalism research is collecting and presenting information in a purely descriptive fashion. An example would be figure 1. It shows the number of estimated vandalism arrests in the United States from 1970 through 1986. All it tells

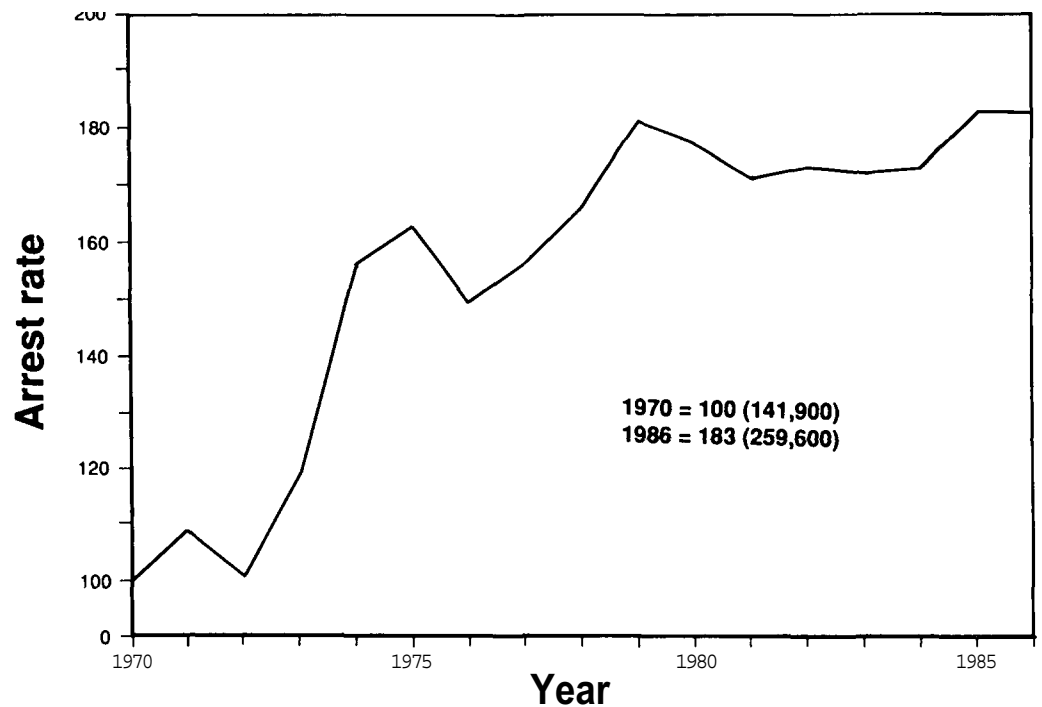


Figure 1—Total estimated vandalism arrests in the United States, 1970-86.

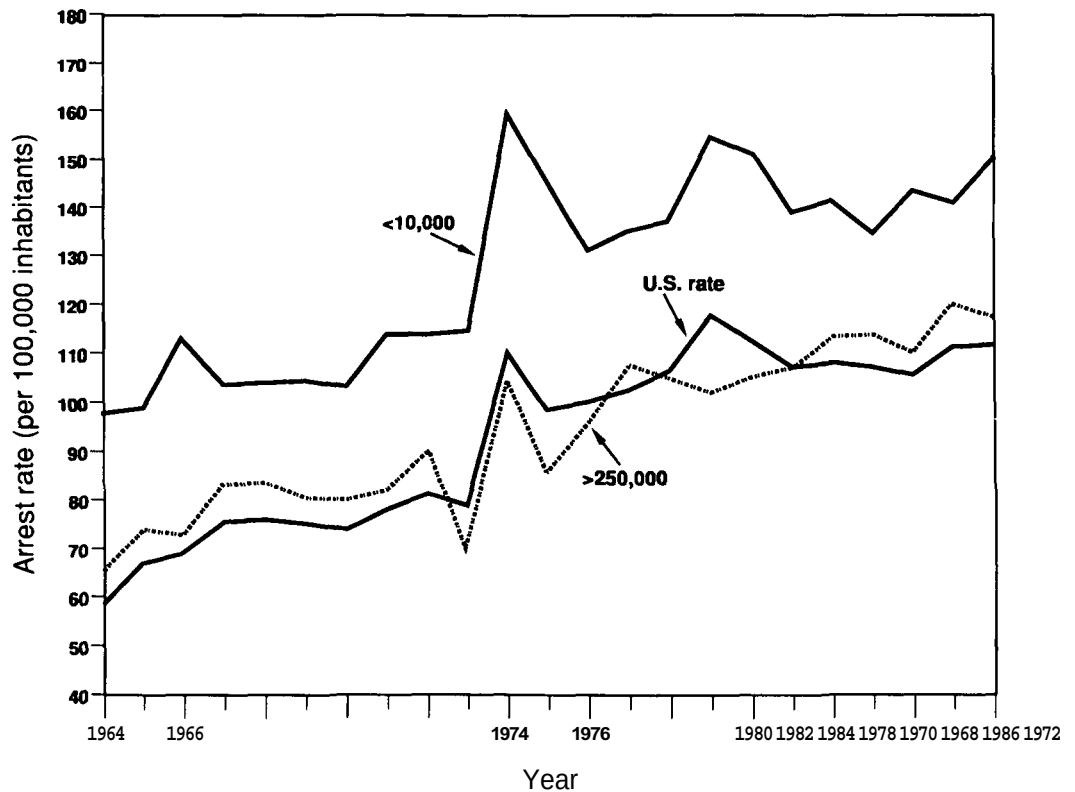
us is how many vandals were arrested each year. This information is not related to any other data that could, for example, suggest reasons for the apparent increase in vandalism.

Somewhat more informative is a bivariate display of information as in figure 2. It shows vandalism arrest rates from 1964 to 1986, separated into trends for the entire United States, cities larger than 250,000, and communities smaller than 10,000 in population.

The information describes differences in vandalism arrest rates between communities of different sizes, but it does not tell us anything about the reasons for these differences. Do vandals in small towns have fewer opportunities to escape arrest? Are small town law-enforcement officers less often diverted by more serious offenses, permitting them to be more effective in vandalism arrests? Are people in small towns more prone to vandalistic behavior? If so, why? The data in figure 2 do not offer any answers.

Another example of this type of descriptive information is found in figure 3, which shows how from 1964 to 1986 vandals in the United States, at least those that got caught, increasingly come from older age groups. Again, on the basis of this information, we can only speculate about the reasons for this trend in "aging" among vandals. It may be related to demographic changes, to a shift in cohort-specific criminal behavior, or to anything else. We don't know.

Data for the above illustrations of descriptive vandalism research come from archival sources. Descriptions can also come from field observations; for example, studies



Source U S Bureau of Investigation, 1987

Figure 2—Vandalism arrests rate for the United States and by community size, 1964-86.

of urban graffiti explore graffiti as a form of art or an expression of individual or group identity. Such research may hypothesize explanations that can be tested in subsequent studies.

Evaluation Research

A second major type of research is evaluative. It can take various forms, and the social sciences offer tools to evaluate the validity of statements about vandalism (Stern 1979) (table 3). Imagine a national magazine headlining an article with "Most vandals are elderly." Conceivably, the article could corroborate this statement; however, taken in and of itself, it is an unsupported assertion.

That same week, a competing magazine states "Meese says vandals come from Mars." In this case, the statement might have more credence. After all, the U.S. Attorney General has made it. No observations are reported, however, about the fact that vandals are indeed Martians. Therefore, the statement is nothing but an appeal to authority.

According to another statement a "Tour by police deputy finds vandalism rate highest in large cities." In this case, observations did produce some supporting evidence, but we get the impression that the observations were casual, rather than scientifically valid and reliable.

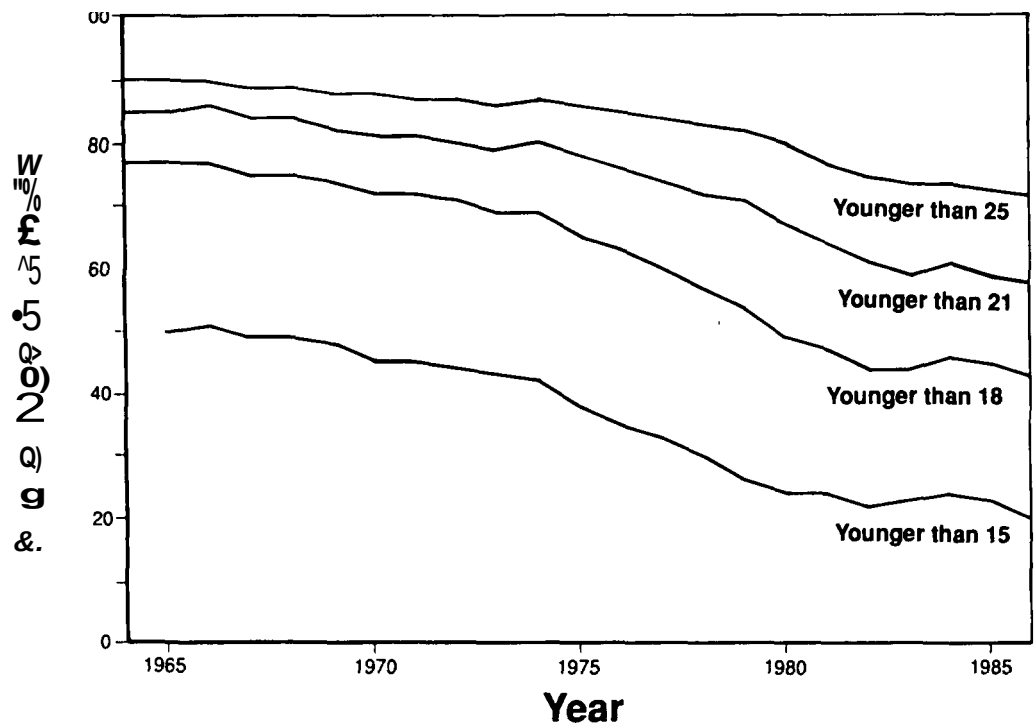


Figure 3—Arrest distribution of vandals by age, 1964-86.

Hence also the final statement in table 3 does not contain adequate information to allow its classification as valid and reliable; it does contain more of the necessary ingredients though. In any event, the sequence of statements suggests ways by which we can critically establish what is fact and what is fiction about vandalism.

Another type of evaluation is the evaluation of antivandalism programs; this has three aspects. First, the objectives of the program must be evaluated. Are they consistent with what we know about the causes of vandalism? Some programs, for example, have attempted to reduce vandalism by fostering social cohesion among neighborhood adolescents. Such programs are based on the assumption that vandals lack social ties with peers and that providing vandals with opportunities for establishing such ties will stop them from being vandals. Research has shown this to be an erroneous assumption. Vandalism is a social activity. One study found that 93 percent of vandalism resulted from group action (Phillips and Bartlett 1976). On the other hand, programs aiming at participatory management, are consistent with insights that feelings of responsibility and control reduce the tendency for vandalistic behavior.

Second, the program's implementation must be evaluated. Has the appropriate target population been selected? Has the intervention been carried out as specified? These and similar questions examine the ways and the extent that a program has been carried out in accordance with its objectives.

Third, what are the results of the program? In what ways and to what extent did it have the intended impact? What are possible side effects?

Table 3 - Decisionmaking procedure for distinguishing among statements about facts

Statement	Supporting evidence?	Any observations?	Observations valid? Reliable?	Conclusion
Most vandals are elderly.	-	-	-	Unsupported assertion
Meese says vandals come from Mars.	+	-	-	Appeal to authority
Police deputy's tour finds vandalism rate highest in large cities.	+	+	-	Casual observation
In nationwide study, 51 percent of representative sample of high school students confess to vandalism during past year.	+	+	±	Scientific evidence?

Source: Adapted from Stern (1979).

In 1982, I argued the need for more evaluation research. I don't know that many such studies have been conducted since that time. 'Lack of funding no doubt plays a role here, which is somewhat surprising given the likely benefits of such research.

Theoretical Research

The third major type of vandalism research is theoretical. According to some cynics, theory is to practice what error is to trial. According to others holding a more sanguine view, nothing is as practical as theory. The latter is certainly true for antivandalism practice. Theory helps us understand why vandalism happens. Such understanding is requisite for successful antivandalism programs.

In this connection, distinguishing between statistical and theoretical explanations is important. Statistical explanations predict things; for example, in the United States, reaching the age of 18 is a good predictor of entering college, but it does not explain the reason. To understand this, we need to refer to, for example, broadly accepted norms in this nation regarding the need for higher education. Likewise, young age may be a predictor or correlate of vandalistic behavior, but it does not explain it.

Several theoretical explanations of vandalism have been offered. Fisher and Baron (1982) stress motives arising out of perceived inequities, moderated by such factors

Research on the Built Environment

as degree of control, architectural features, and peer pressure. Alien and Greenberger (1978) conceptualize vandalism in terms of the esthetic experience it affords. Richards (1979) has organized an explanation of vandalism around the concept of age-status conflict. And there are other theoretical approaches (Levy-Leboyer 1984).

Clearly, developing and implementing antivandalism programs based on theoretical insights is important. Systematic evaluations can then help determine the extent and the ways that they are effective under different circumstances.

Let us turn now to research on the built environment. Crime prevention through environmental design takes, by and large, two forms. The first is called "target hardening." This approach simply attempts to vandalproof the environment, to make it indestructible. Well-intentioned designers have, for example, used 250-pound gorillas to test playground equipment (not realizing that kids are far more ingenious and capable when it comes to destroying things).

Target hardening often involves the use of a checklist. Zeisel (1976) prepared an extensive list of questions about the interior and exterior of schools (see fig. 4). Such questions alert design professionals to potentially vulnerable spots and suggest preferred ways to design new or modify existing environments. Target hardening may result in dysfunctional results (fig. 5). The cartoon carries the approach to an extreme, but Dornberg (1987) reports how museum visitors are subjected to security checks that make them feel like common criminals and detract from their enjoyment of the exhibits. In February 1987, a national Dutch newspaper carried an article containing a plea by a local crime prevention office for youth centers without windows, with steel doors, backing up to a canal, and sided by a police or fire station (Kraal 1988).

A second built-environment approach is organized around the concept of defensible space (Newman 1972). Here, the central idea is to reduce opportunities for criminal behavior by applying principles of planning and design. One example is to increase surveillance of an area through proper location of windows and building entrances, the installation of electronic monitors in elevators, and so on. Another example would be to induce proprietary attitudes in residents by territorial division of space, using changes in the color or texture of pavement, low hedges, and other symbolic demarcations. A large literature has accumulated on the defensible space approach. Here, I can only note that parts of this literature are supportive, but other parts point to important limitations.

Fixtures

What have you done to accommodate the rough use given to fixtures and hardware reachable from the ground — both on walls and scattered around the site like lamp-posts, bike racks, and guard rails?

	Yes	No
0 There are no fixtures on otherwise blank walls.		
0 Highly visible fixtures on otherwise blank walls are covered by extra heavy grills.		
0 Highly visible fixtures on otherwise blank walls are recessed.		
0 All fixture are out of reach of kids on each others' shoulders or holding sticks.		
0 All fixtures are higher than ground level where they can be kicked or stood on.		
0 There are no unnecessary fixtures on building exterior.		
0 All fixtures are recessed.		
0 All fixtures are covered with heavy duty protective plate.		
0 There are no vulnerable rainwater pipes below 6ft. from the ground.		
0 There are no lighting fixtures with plastic covers.		
0 Lighting fixtures are covered with armor-plate glass.		
0 Site fixtures are able to be climbed on and used as targets.		
0 Site fixtures do not challenge students to damage them.		

Figure 4—Portion of questionnaire concerning interiors and exteriors of schools.

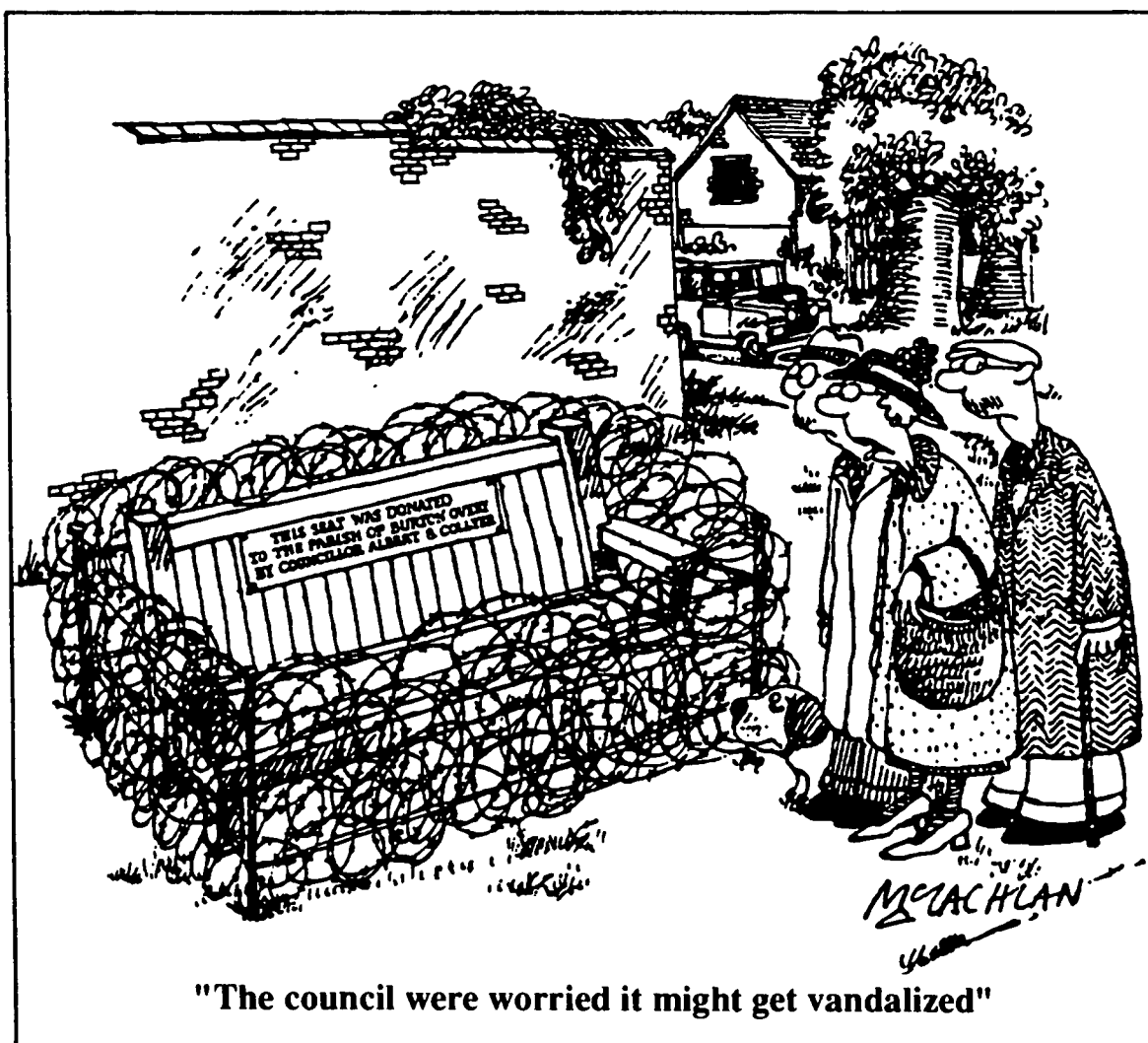


Figure 5—Cartoon from Private Eye.

Cooperation between social scientists and design professionals in preventing vandalism is beset by several difficulties, including the following differences:

- Focus on different stages in design process;
- Ways of thinking;
- Jargon;
- Value orientations;
- Time horizons; and
- Incentive structures.

Some of these difficulties are specific to the environmental design field; others are more widely applicable. None implicates antivandalism programs directly, but each helps to shape the context for such efforts.

First, social scientists and design professionals focus on different stages of the design process.² The design process is commonly seen as having five stages: programming, design, construction, use, and evaluation. Obviously, design must be concerned with all five stages, the whole process. In contrast, social scientists are typically concerned with documenting user behavior or conducting postoccupancy evaluations. Very little research is done during the programming stage, where the contribution of social scientists could be relatively more valuable.

A second difference between design professionals and social scientists relates to ways of thinking. The problem-solving approach of the former can best be described as synthetic. Their task is "putting things together." "Things" in this connection means knowledge regarding an array of questions: technical (for example, concerning design, structure), as well as esthetic, economic, psychological, and so forth. "Things" also means the requirements of such diverse parties as contractors, building inspectors, and paying and using clients. All of these elements need to be synthesized into a single product—an apartment building, a shopping complex, a community center, or anything else.

In comparison, social scientists adopt a more analytic approach. They dissect a situation to assess the effect of one variable on another variable, controlling for confounding influences. They may examine the relation between building height and familiarity with neighbors, parceling out in their analysis a host of other environmental and behavioral factors that designers need to consider.

Designers also tend to think in terms of a specific problem. They must design the school on Ninth Street. They need answers to questions related to that particular site. Social scientists, on the other hand, aim to make generalizations, statements

2. Part of this discussion is based on Altman (1975).

that apply to, say, all schools everywhere. Such statements have limited value as design guidelines.

Jargon is a third difficulty hampering collaboration between social scientists and environmental designers. Designers speak of the "dynamics" of a design and "its anchoring points for human identity," ostensibly knowing what these are. Social scientists may refer to the "qualified interpretation of loglinear results" and the use of a "stratified systematic random sample," which leaves designers scratching their heads in bewilderment. Jargon is an efficient mode of communication within the boundaries of any given discipline. However, when the joint expertise of diverse disciplines and professions is needed, as in the case with vandalism, jargon may hinder cooperation.

Fourth, designers and social scientists have different value orientations. Designers want to produce the optimal design. They want to design the best possible school on Ninth Street, and they look to social scientists for help in doing so. Social scientists have a different perspective. They will say that there are various alternatives, they will study these alternatives, and they will point out that each has its own specific advantages and disadvantages; but they will not make a value judgment about what the best alternative is.

Fifth, designers and social scientists operate under different time constraints. Classes in the school on Ninth Street are scheduled to start August 24, 1988. Designers are under a contractual obligation to complete their work by a strict deadline. Asking a social scientist for user preferences on hallway design, he or she may well get as an answer "Yes, I can find out about that. I'll have to determine the relevant populations, draw a representative sample, develop suitable data collection instruments, collect the data, and analyze them. You'll have my report by October 1, 1988." By that time, the designer will be at work on another project.

A final difference between designers and social scientists concerns their incentive structure. Design practitioners have no reason to share their results via academic channels. They want recognition from the public and prizes awarded by their peers.

Social scientists have different peers holding different criteria of success. Insights into user preferences for design of the hallway of the school on Ninth Street, however valuable, will not give any social scientist tenure or promotion. A general theory of disruptive behavior in schools, published in a refereed journal, brings accolades.

In short, the professional context of designers and social scientists offers incentives for divergent, not convergent behaviors.

Any specific effort involving collaboration between designers and social scientists, such as vandalism prevention, will face these more general difficulties. Attempts to address them include several approaches. One is to develop innovative multidisciplinary or interdisciplinary contexts to foster cooperation across conventional boundaries. Another involves the improvement of the presentation format of research

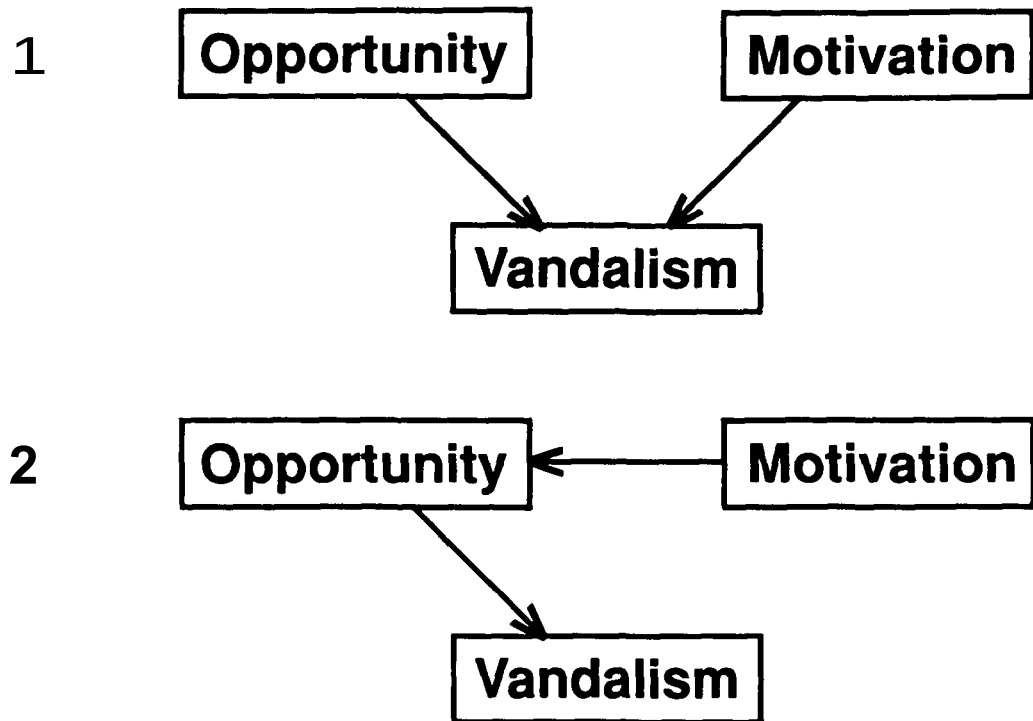


Figure 6—Alternative conceptualizations of simplified relations between opportunity, motivation, and vandalism behavior.

results. Without discounting the value of such approaches, it is useful to assess on a more general level the role of environmental design in preventing vandalism.

Conclusion

In the final analysis, vandalism arises from two conditions: motivation and opportunity. Neither is sufficient to produce vandalism. Both are necessary. Yet, these two conditions can be seen in different ways when it comes to preventing vandalism (fig- 6).

In a simple view, environmental designers may suggest, "Let's just take away the opportunity and no more vandalism will occur." The problem with this approach is that not each and every opportunity can be eliminated, and motivation still exists. In fact, evidence suggests that motivation generates its own opportunities. In this light, designing against vandalism has certain inherent limitations. It may be a damage-reduction strategy, but it does not address problems of which vandalism is only symptomatic.

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What Is Vandalism? Towards a Psycho-Social Definition and Its Implications

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Abstract

This paper proposes a definition of vandalism by considering it as a social behavior and as aggression towards the environment. It is, therefore, possible to refer to psychosocial definitions of aggression. Several definitional issues are discussed, and a definition based on the conditions of occurrence and on Feshbach's classification of aggressive behavior is proposed: "Vandalism is an intentional hostile behavior aimed at damaging environmental objects" (Feshbach 1964). Two types of vandalism are distinguished: targeted and untargeted. The different forms of damaging behavior (vandalistic and nonvandalistic) are analyzed and presented with the corresponding mechanisms on which hypotheses may be formulated.

Keywords: Vandalistic behavior, definition, intentional hostile behavior, targeted and untargeted vandalism.

Introduction

Research on vandalism has mainly been instigated by victim organizations, and the studies have been aimed at solving the problem of vandalism. It is therefore not surprising that we are dealing with a realm characterized by a poverty of theories, as *van Vliet* very rightly points out in his overview of vandalism (1984). The definitions of the phenomenon given by different authors (if, in fact, they give any) are definitions closely linked to the problems they have to solve and are necessarily incomplete and circumstantial. The term vandalism is applied to all sorts of behaviors implying damage to or destruction of private or public objects. *Canter* (1984) emphasizes the lack of any clear definition of vandalism in its specificity and relation to other similar behavior.

Although most authors see in vandalism an essentially malicious behavior, they do not agree on a unique definition. The term vandalism does not refer to a homogeneous behavior: it is a hodgepodge concept that covers behavior for which motivations are extremely different. Several authors suggest a classification of different types of vandalism that consider the supposed motivations of the actors of damage. *Cohen* (1973), for example, distinguishes the following behaviors: tactical vandalism (for example, sabotage in the work place), vindictive vandalism (as a form of vengeance), play vandalism (breaking window panes, for example), and malicious vandalism (out of boredom, exasperation, resentment, frustration). But within malicious vandalism, distinguishing purposeful behavior from vandalism as a consequence of a negligent use of the environment seems necessary (*Becker* 1977, *Zeisel* 1976). Other definitions refer to the pleasure that may be provided by the destruction of the object (*Alien* 1984), introducing at the same time an explanation of the phenomenon. Obviously, these definitions are based on judgment, either from the perspective of the victim, the organization, or the person who suffers the consequences of the damage—or from the perspective of the vandals suspected to have originated the damage and their supposed motivations.

In spite of their blurred and inexhaustive features, two theoretical approaches can be distinguished; one concerned with the actors, the other with the targets of vandalism. The former, oriented towards both psychology (clinical psychology and psychopathology) and sociology (finding out the social causes of vandalism) attempts to circumscribe the personality of the vandals (sometimes seen as delinquents) or offers analyses related to a social phenomenon. The latter, which is essentially based in the realm of environmental psychology, raises the issue of knowing why some objects are damaged and others are not.

Many authors agree that vandalism reveals a particular relation to the object damaged but without drawing all the consequences. Raising the issue in this way allows an analysis in terms of social psychology with two major consequences.

First, it allows us to consider vandalism not as the result of a behavior but as the behavior itself and, therefore, to grant a social meaning to it to the extent that it implies a link (an interaction, according to the established terminology) between the actor and the object. The same meaning cannot be given to a behavior aimed at destroying or at being noticed, such as writing on a public bench one's name and that of one's beloved. Thus the same object, a public telephone for example, may be a surface for graffiti, an object for destruction or, because it contains cash, a means to

illicit profit—or it may have no value for the subject and, consequently, be treated negligently.

Second, it permits us to introduce an analogy between aggressive and vandalistic behavior. Vandalism may be, as a matter of fact, considered an aggression towards the environment; therefore, attempts may be made to define it in relation to the definition of aggression. Aggression is a behavior that simultaneously fulfills the three following conditions (Moser 1987): The existence of a prejudice for the victim, the aggressor's intention of doing harm, and the consensus to consider that the behavior in question is contrary to the norms applicable to the particular situation in which the behavior is taking place (to push somebody violently on an American football field is not an aggression, whereas this very behavior in the underground is). In this sense, one may consider vandalism an aggression aimed not at individuals, but at objects, whatever symbolic value they may be granted, and that damaging them allows the vandal to reach the symbolized authority through the object.

Therefore, if vandalism is considered both as a social psychological phenomenon and as similar to the pattern of aggressive behavior, it is justifiable to refer to the analysis of aggressive behavior. In fact, the problems raised by the definition of vandalism are somewhat similar to those raised by the definition and study of aggression.

Definitions of Vandalism

As is true for aggression, the definition of vandalism is made difficult by the fact that the evaluation of the behavior depends on the perspective chosen. Thus, three different approaches can be distinguished according to their being centered on the damage, on the actor, or on the context.

Definitions Based on Damage

Vandalism may be temporarily defined as "the dilapidation or destruction of an environmental object." Such a definition is of pure behaviorist tradition, which disregards any reference to the vandal's motivation, considering that the latter cannot be known, but only inferred by the behavior. The judgment of whether the behavior is vandalism or not is based on the outcome of the behavior. For the dilapidation of any object to be qualified as vandalism, the intervention of a value-judgment is indispensable. This judgment is generally originated by the victim of the act and lies on the prejudice caused. Simultaneously, it is founded on social consensus. Therefore, most definitions of vandalism are, in fact, nothing but the expression of common sense. But as soon as one speaks about concrete examples, one realizes that consensus is far from being established in all cases. Thus, when the Telephone Authority mentions the vandalism of telephone booths, it includes all voluntary destructions of telephones, whether robbery is the motive or not; most researchers limit vandalism to cases of unprofitable destruction. An inevitable consequence is that statistics on vandalism cannot be trusted (van Vliet 1984). A definition founded only on the victim's point of view appears widely insufficient. In fact, by considering only the prejudice suffered by the victim, any reference to the actor's intention is excluded. The behavior can be given a meaning only by considering the victim as well as the actor and his purpose.

Definitions Based on the Intention of the Actor

Introducing into the definition the actor's intention to destroy (by referring again to a consensus among researchers about certain situations and their interpretation) allows, on the one hand, the introduction of a distinction between casual and

purposeful destruction and, on the other, inclusion of the fruitless attempts at defining vandalism. Giving an intention to the behavior allows us to understand it by referring to the actor's conscious behavior. Thus, vandalism would be "an intentional act aimed at damaging or destroying an object that is another's property."

The consensus is still necessary here; contrary to what happens for behaviorist definitions, however, it is obtained not on the damage, but on the actor's malicious intent. Such a definition neglects the social context of behavior, however.

Definitions Taking Into Account the Context

A behavior considered appropriate by the actor is most often considered inappropriate by the victim. Only by referring to the context and to the norm ruling can the behavior clearly be labeled. As for aggressive behavior (DaGloria and Duda 1979. Mummendey 1984), referring to the social norms is important. Studies about judgments on acts of vandalism (Moser and others 1984, Bideaud and Coslin 1984) have shown that an act is qualified as vandalism only through the judgment of the observer (or the society) who identifies the behavior as a violation of the norm. Society has degrees of tolerance towards damage; some depredations are considered insignificant, others extremely serious. Only by referring to a norm is the seriousness of an act judged and consequently liable to be sentenced or not. A multitude of potential targets can undergo depredation. The tolerance towards these depredations and, more particularly, the evaluation of their seriousness may explain the rarity or the frequency of certain behaviors. Many acts of vandalism are done openly and are concerned with the public realm. The norms that govern public property vary according to the evaluation of the prejudice, the nature of the vandalized object, and the presumed actor of this prejudice (graffiti on school benches is considered not very serious, partly because the presumed actors are children, but the same graffiti on a public monument is considered serious). Moreover, the damage caused may alter the function of an object (a vandalized telephone, for example), or it may have no consequence on its use (a road-sign shot at with a rifle). A behavior will be qualified as vandalism out of a process of judgment reached through three independent criteria:

- The declaration of the possible or real damage to the victim.
- The intent of the actor to cause harmful consequences; namely, to damage the object.
- The fact that the behavior can be considered by the victim or observer to be inappropriate in the situation or the context concerned. In other words, to qualify as vandalism, the behavior must be violating the norm.

Definitions Taking Into Account the Motivation

The reference to the classification of aggressive behavior suggested by Feshbach (1964) allows analysis of the destructive behavior according to the motivational dimension. The distinction concerned is made between hostile, instrumental, and expressive aggression. Similarly, the following three types of destructive behavior can be suggested:

- Hostile behavior, the aim of which is to damage or destroy the object.
- Instrumental behavior, which consists of damage or destruction caused to an object as a means to achieve other goals (appropriation of another's property, sabotage, for example).
- Behavior motivated by a desire to express oneself through the degradation of objects. In this last case, the goal would be the expression itself and not the destruction of the object,

Whereas the goals of hostile and instrumental behavior are clearly identifiable, the goal of expressive behavior reflects a particular motivation of the actor characterized by the desire to express himself or herself through an act that may be considered to be a depredation only by the victim.

Feshbach (1964) distinguishes, moreover, between individually motivated aggression and socially motivated aggression. Thus, a hostile or instrumental behavior may be directed to personal aims or socially acceptable aims. Vandalism may be socially motivated if it is directed to aims that can be admitted according to the norms of subcultures or specific groups.

The Definition of Vandalism The definition of vandalism must include the points of view of the caused damage, the actor, and the observer. In spite of the variety of the behaviors, the motivations that originate it, the diversity of targets, and the consequences of damage caused, the following restrictive definition can be suggested:

Vandalism is a voluntary degradation of the environment with no motivation of profit whatsoever, the results of which are considered as damage by the actor(s) as well as by the victim in relation to the norms that rule the situation.

Holding this definition implies resorting to a pattern of factors that allow qualification of the behavior and clarification of the conditions in which the damage can be the result of vandalism. In fact, if the context of the damage is taken into account, the following questions must be raised:

- Is the damage intentionally inflicted? If not, the damage reflects an inadequate use of or neglect to the object. If so, it is legitimate to qualify it as vandalism.
- Is the damage the result of an instrumental, expressive, or hostile behavior?

By distinguishing these factors, we explicitly exclude the behavior resulting in damage but for which the main purpose is not destruction: sabotage, breakage motivated by a financial profit, and graffiti (which are not considered degradation by their authors but as means of expression and communication).

The exclusion of instrumental destruction from the field of vandalism is widely justified by clinical psychology research. As a matter of fact, vandals are often neither delinquent nor pathological personalities. The studies made through self-denunciation show that we are often confronted with young individuals as normal as can be,

who admit to having committed acts of vandalism (Gladstone 1978, Stace 1978). Young delinquents judge acts of vandalism far more severely than do nondelinquent young people of the same age (Moser and others 1984).

If the distinction between instrumental and hostile behavior lies in establishing the purpose of the degradation, the distinction between the hostile and expressive character of behavior must be based on the same criteria. Consequently, any behavior the motivation for which is neither the damage or destruction of the object (hostile) nor profit (instrumental) is expressive.

Obviously, slashing underground seats is vandalism, but graffiti added to advertising posters or walls in the street are mainly expressive. Let us recall here the case of Naegeli, which perfectly illustrates this difficulty of distinction in relation to the accepted viewpoint. This case was about a young man from Switzerland who was arrested and sentenced for degradation of public buildings: he was covering some walls in the city of Zurich with strange man-figure drawings. The drawings were noticed by art critics, and Naegeli now enjoys great prestige in the art community. It cannot be denied that his motivation was not to damage the walls, although for the victim (Zurich city authorities), it can only be a case of voluntary degradation and, thus, hostile vandalism. The same problem is quoted by Christensen (1984), who emphasizes that often an act in parks and leisure grounds that is considered illegal by managers seems altogether acceptable to the user; she explains this difference by the user's ignoring of the norms that rule the situation.

Implications for Research and Prevention

Identification of Destructive Behavior

A restrictive definition of vandalism using, on the one hand, the reference to the intent and, on the other, the classification of the motivation originating the damage (instrumental, hostile, or expressive) is the condition sine qua non for research about vandalism to emerge from confusion (fig. 1). Considering vandalism part of the field of social and environmental psychology brings significant consequences for research and prevention.

1. Defining vandalism as a behavior and not as a result of behavior implies examining the relation of the subject to the damaged object, taking into account both the intention and the motivation of the behavior. The analysis of depredations cannot be the same whether they result from instrumental, hostile, or expressive behavior.

2. Defining vandalism as an intentional and hostile behavior towards an object is to give it the status of a **unique behavior** analyzable according to the concepts resulting from the social psychology of aggression, especially concerning the factors that favor or inhibit the acting out.

Confronted with a depredation, the researcher must ask himself three questions: What kind of depredation has occurred; instrumental, hostile, or expressive? What norms rule the situation and especially the target of the caused depredation? Is the

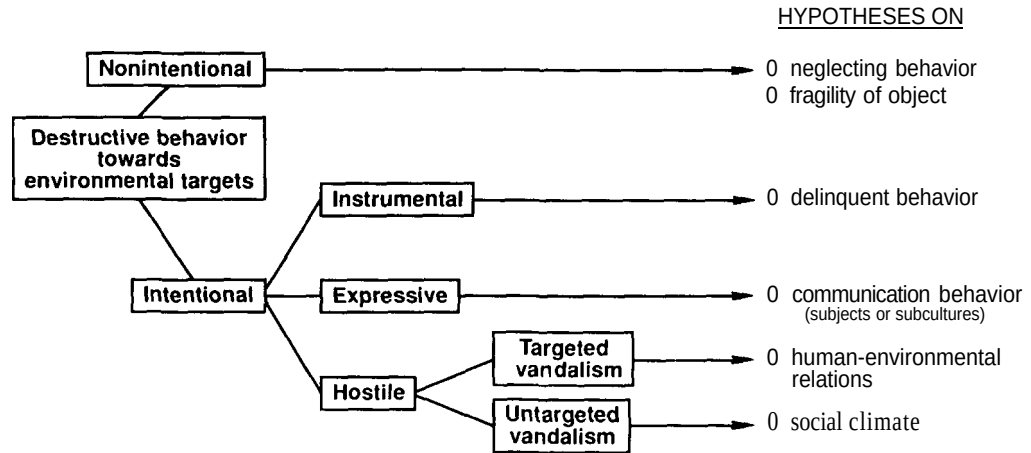


Figure 1—The process of identifying the different types of destructive behavior with the mechanisms implied

destroyed or damaged object aimed at as such, or is its selection fortuitous and circumstantial?

Mechanisms Implied and the Corresponding Hypothesis

As Levy-Leboyer (1984) points out, the systematic observation of vandalized sites reveals that environments are not all vandalized in the same way, and the psychological, architectural, or sociological variables cannot totally account for the reasons some environments are damaged and others are not. These observations suggest the necessity to take into account the relation of the individual to the environment. What must thus be searched for is what becomes an object for vandalism in the environment, why it so becomes, and what mechanisms rule the choice of the object (Levy-Leboyer 1984). Social norms determine our behavior towards objects of our surroundings. For every environmental site, certain behaviors are accepted, others tolerated, others judged unacceptable (to trample a cigarette butt in the street is accepted, tolerated in a public place, but is not accepted—and thus an act of vandalism—on the carpeted floor of an office). Social and institutional life and the use made of a specific environment are closely linked, and relation between the users and the environment is what explains that some environments are vandalized and others preserved.

This point of view has led to evidence of certain mechanisms concerning the role assigned to the object by the individual, which intervenes in the occurrence of vandalism. Consequently, if the object as such is aimed at, we speak of "targeted vandalism," if the object's selection results only from a concurrence of fortuitous circumstances, we then speak of "untargeted vandalism."

Targeted vandalism—The hypotheses that may be set forth for targeted vandalism are those of environmental insertion, environmental inadequacy, and induced neglect.

- Environmental insertion: The idea that novelty attracts vandalism was demonstrated, for instance, about playgrounds as well as about urban furniture. Such vandalistic behavior can be explained by a well-known phenomenon in

psychology—resistance to change—aggravated by an ill-suited environmental insertion of the objects concerned (selection of location, for example).

- **Environmental inadequacy:** If the subject is prevented from reaching fixed goals by an environmental object presenting an obstacle, frustration is experienced and aggressive behavior towards the environmental object may result. This effect has been observed with out-of-order telephones, where the vandalism is explained by two additional factors: the feeling of being deprived of control over the possibility of achieving one's plan and of being powerless against an anonymous administration that seems uninterested in its users (Moser and Levy-Leboyer 1984). This type of behavior is not practiced solely by fringe individuals. Of the users interviewed, 70 percent admitted to aggressive behavior when confronted by an out-of-order phone. The point is that it is not only a socially accepted behavior, but it is also justified in the eyes of the actors themselves because of the inadequacy of the concerned environment.
- **Induced neglect of the environment:** Vandalism increases rapidly where environments seem to be neglected. A vandalized environment tends to give a feeling of abandonment, which aggravates the feeling of insecurity (Lavrakas 1982). Damage and destruction can be produced by a collective, unique, massive act, but can also result from the accumulation of microbehaviors expressing an attitude of neglect to the object (kicking a door to open it, for example) or its deviated use (children playing with matches). In this case, again the environment does not correspond to what the subject may expect from it.

Untargeted vandalism —Untargeted vandalism may appear as the mirror of a bad social climate, and the selection of the target is then explained by how fragile and accessible the vandalized object is. This phenomenon may be observed at different levels:

- **Social microclimate:** If schools attended by teenagers belonging to the same social classes are compared, it can be observed that some are strongly vandalized, others are not. The only variable that may explain these differences is a variable of social atmosphere (teachers/students/auxiliary staff) within each one of these institutions. Social cohesion and the quality of life in a system human/environment is the condition determining the seriousness of school vandalism. The ensemble of users is, then, the creator of a norm specific to the institution according to which the damage caused is evaluated. If the institution places little value on the people who work there and gives them poor satisfaction, indifference and neglectful behavior towards the institutional environment occurs as a consequence (Girault 1982).
- **Alienation from the society:** Some fringe groups show their deep dissatisfaction with and their passive dependence on a society that is for them a source of multiple frustrations, by damaging environmental objects. Feeling that they have no control over their own future, they look for a sensation of power over their environment by vandalizing objects that symbolize the society in which they live (for example, slashing subway seats, breaking telephone booths, ransacking parks). These acts give a feeling of domination over a hostile environment, leave scars on

it, and allow the actor to gain regard among peers. Such evidence of vandalism can be understood only through the relation of specific groups or subcultures to the social environment.

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Towards New Definitions of Depreciative Behavior and Vandalism

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Abstract

This paper explores the nuances of depreciative behavior and vandalism that make the terms as traditionally defined difficult to apply in practice. Specifically, the problem of language itself is examined along with the idea that depreciative behavior and vandalism might best be thought of as forms of communication. In the interest of working toward new definitions, the terms are then distinguished along dimensions of intent, awareness of consequences, and responsibility for one's actions. The paper concludes with a discussion of the managerial implications of the definitions developed.

Keywords: Vandalism, depreciative behavior, internet, awareness of consequences, responsibility

Introduction

At first glance, definitions seem straightforward: depreciative behavior is any act that detracts from the social or physical environment (Campbell and others 1968; Clark and others 1971). The term connotes unintended negative impacts. Vandalism, on the other hand, is defined as a "willful act of physical damage that lowers the aesthetic or economic value of an object or area" (Harrison 1976). The effects of vandalism are intended. Considered together, the distinction between depreciative behavior and vandalism turns on the issue of intent. Because vandals know what they're doing and still do it, their infractions are of a fundamentally different nature than are the infractions of those who unwittingly engage in depreciative actions.

Based on these definitions, what can be said of the following two situations?

On the Bright Angel Trail, in Grand Canyon National Park, Anasazi murals are cherished as "rock art" and are protected by the National Park Service.

In Escondido, California, teenage gang members' murals are decried as "vandalism" and are removed by local officials.

In both instances, the actions depicted are similar. Yet in the first case, the results are highly regarded for their cultural value; in the second case, they are not. What is it that accounts for such a divergence of opinion about these two cases? What are the variables that play an influential role in shaping the definitions of events?

The purpose of our paper is to explore these and other questions that illuminate the difficulty of applying the terms "depreciative behavior" and "vandalism" consistently and fairly in practice. Our intent is to work through these questions in a way that makes the terms less problematic for management purposes. The task is complicated by the existence of a host of other definitions of the terms, ranging from absolutist to relative to reactive in nature. The challenge is to reduce the terms to their essential dimensions and then to build anew. For, as Christensen (1968) puts it, "defining vandalism and depreciative behavior is of primary importance if we are to develop prevention and control programs to mitigate impacts."

Constraints Through Language

To begin with, we must realize that the meanings of the words "depreciative behavior" and "vandalism" rest more in people than in the words themselves. "Words are symbols, which each of us interpret, often in very different ways" (Adier and Towne 1975). So it is that contemporary teenagers' murals can be interpreted both as "vandalism" or "artwork" depending on who is doing the interpreting. By the same token, ancient Anasazi drawings can be defined as priceless cultural artifacts or as primitive forms of environmental defacement, depending on who is doing the defining. Words like depreciative behavior and vandalism should thus be viewed as emotive labels that are attached to certain activities under certain conditions (Cohen 1968). But we must not confuse the labels with the things they symbolize (Dustin 1982). A mural is a mural. Whether it is labeled "art" or "vandalism" is influenced by a host of factors. It is in this sense that Cohen suggests "the construction of a 'pure' or 'objective' behavioral definition (of depreciative behavior and vandalism) ...is only the beginning of the story" (Cohen 1984).

We start with this language problem for good reason. It illustrates the tentative nature of the meanings of words. What is labeled "depreciative" or "vandalistic" differs from individual to individual because each of us sees the world differently. In that sense, honest differences of opinion are bound to occur. Moreover, our own definitions of these terms will also fluctuate over time as we learn more and more about the impacts of our actions. So it is that language is fluid by nature, ever changing and conforming to new sets of circumstances. The goal of working towards concrete and universally acceptable definitions of vandalism and depreciative behavior may thus be destined to remain beyond our reach.

This is not to reduce the definitional issue to the status of "it's all in the eye of the beholder." Rather, attention must be focused on those conditions that give rise to the current conceptualization of an action as depreciative or vandalistic. What is it, for example, that explains our negative reaction to teenagers' murals while we revere their ancestors' etchings? We must constantly assess the propriety of the social norms, the violation of which we label "vandalistic" or "depreciative." We must, in other words, always be ready and willing to go beyond the label in our search for meaning (Dustin and others 1982).

Forms of Communication

If, as the saying goes, actions speak louder than words, then what we describe as depreciative behavior and vandalism may best be thought of as forms of communication. In depreciative behavior, the message may simply be that one does not recognize the relation between one's actions and the consequences of those actions. This, in fact, is the conclusion drawn about most of the negative impacts associated with recreational use of public lands (Brockman and Merriam 1973, Vander Stoep and Gramann 1987).

Vandals, on the other hand, may be saying something else. If we assume that their impacts are intended, they may be well aware of the relation between their actions and their consequences. In fact, the vandals may use the act to make a statement about their own relation to the larger community. Vandalism in particular, then, may be thought of as a transactional process, an exchange that is consciously defined as inappropriate by society and appropriate by vandals. Readers are referred to the

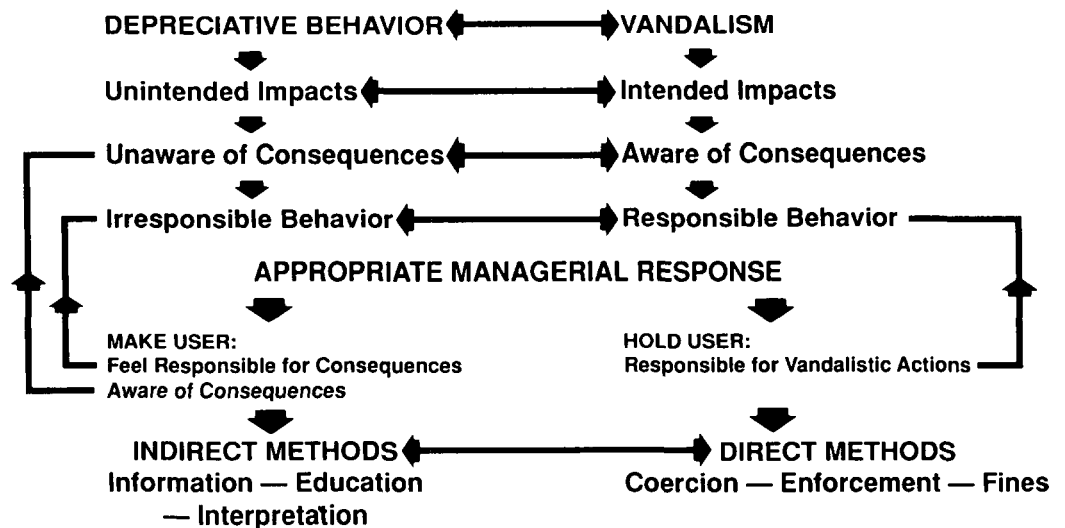


Figure 1—Continuum of depreciative behavior and vandalism.

paper by Moser elsewhere in this volume for a discussion on vandalism as an intentional, hostile behavior.

The Depreciative Behavior/Vandalism Continuum

Three distinctions can be drawn between depreciative behavior and vandalism for definitional purposes (fig. 1). The first distinction is the matter of *intent*. Depreciative impacts have already been defined as unintended, vandalism impacts are intended. From this, follows the second distinction concerning *awareness of the consequences* of one's actions. Individuals who engage in depreciative behavior are unaware of the consequences of their actions. Otherwise, they would behave differently. Vandals, in contrast, are aware of the consequences of their actions. Indeed, such awareness accounts for their actions. The final distinction, then, is one of *responsibility*. People who behave depreciatively do so because they are uninformed about the consequences of their actions. In that sense, they are not responsible for them. Vandals, however, are responsible for their behavior—they know what they're doing.

As figure 1 illustrates, a continuum can be developed that differentiates between depreciative behavior and vandalism along the lines of intent, awareness of consequences, and responsibility. Such a continuum suggests that depreciative behavior and vandalism should not be construed as either/or propositions. Rather, they should be considered matters of degree. The more one intends to engage in actions known to have negative consequences, the more vandalistic those intentions become. The more aware one is of the negative consequences of one's actions, the more vandalistic those actions become. The more one engages in actions known to have negative consequences, the more responsible for those vandalistic engagements one becomes.

The critical distinction between depreciative behavior and vandalism thus hinges on the degree to which the perpetrator of the act "knows better." When we understand the effects of our actions, when we know better than to act in a certain way but still

choose to act that way, we are vandalizing. On the other hand, when we don't understand the effects of our actions, when we simply don't know any better than to act the way we act, we are behaving depreciatively.

Managerial Implications

From a managerial standpoint, the difficulty with these definitions rests in their personal nature. The manager can see only the impacts of an action or the action itself. The manager cannot see the intent, awareness, or sense of responsibility in someone else's mind. How, then, should the manager guard against what is perceived to be depreciative or vandalistic impacts or actions?

Prosocial behavior theory sheds some light on the matter. Briefly, prosocial behavior is "helping behavior that is not motivated by the expectation of a tangible reward for helping, or a tangible punishment for not helping" (Baron and Byrne 1977). The term refers to the inclination of people to obey social norms under certain conditions. According to Schwartz (1968), such "norms will be activated and influence behavior when the/decisionmaker is aware of the consequences of his actions for others and when he feels personally responsible for the action and its consequences."

Referring to figure 1 again, prosocial behavior theory suggests that the appropriate managerial response to depreciative behavior is to make individuals aware of the consequences of their actions, and then to make them feel responsible for those actions. This can be achieved through indirect measures such as information dissemination, education, and interpretation. Equipped with such new-found awareness and a sense of responsibility, those individuals should then be counted on to exhibit prosocial behavior. Recent studies in recreation settings by Christensen (1981) and Vander Stoep and Gramann (1987) support this contention.

Applying the logic of prosocial behavior theory, the successful prevention and control of depreciative behavior rests in effective communication strategies that convey both an awareness of the consequences of particular behaviors and a sense of responsibility for them. Ideally, such communication should take place before one has a chance to behave depreciatively, rather than in response to particular acts. This means that managers must try to anticipate depreciative actions, communicate their probable consequences, and enlist the support of the public by infusing a sense of responsibility for subsequent conduct.

The mitigation of vandalism, however, warrants a different managerial tack. If vandals are aware of the consequences of their actions and are responsible for them, they require different treatment. Typically, this means "forced compliance in which punishment is threatened if protective rules are disobeyed" (Vander Stoep and Gramann 1987). The methods are more likely to be direct and often coercive. They should be paired with a concern for identifying the "message" being conveyed by the

vandal, in the interest of reassessing the propriety of the social norm being violated, as well as in the interest of developing alternative outlets for social dissent.

Vandalism, unfortunately, is a particularly unpleasant managerial issue because its mitigation appears to necessitate implementing prevention and control strategies that are external to the vandals. Unlike the person behaving depreciatively who can be counted on to change his or her conduct as a function of heightened awareness and an internalized sense of responsibility, the vandal must be coerced into appropriate behaviors by an outside force. Barring a fundamental change in the vandal's thinking, the manager is put into the position of a policeman, a decidedly unpopular dimension of managerial responsibility.

Locus of Control

Much of this discussion alludes to the desirability of an internalized locus of control. People who behave depreciatively are not really in control because they have no choices to make. The individuals do not know any better than to do that one depreciative act; by making them aware of the consequences of the actions, and by making them feel responsible for what they do, choices are created. And with choices come commitment and responsibility.

We are suggesting here—and moral judgment theory seems to bear it out (Colby and Kohlberg 1987a, b; Kohlberg and others 1983; Rest 1986; Christensen and Dustin 1986¹)—that as people become more aware of the consequences of their actions and internalize a sense of responsibility for them, they are more inclined to comply with society's norms without external prompts. They do it on their own. That is desirable for managers because it illustrates the potential for most people to be self-regulating (Dustin and others 1986).

Most assuredly, there are exceptions. And vandals may be one of them. But for the vast majority of people, the managerial challenge is to instill awareness and responsibility in them. They will take it from there.

A Parting Thought About Social Norms

Throughout these pages, we have proceeded as though a consensus exists on society's norms, the violation of which we term "depreciative" or "vandalistic." But in all likelihood, the absence of such consensus is what leads to much of the definitional confusion concerning these terms. Social norms are continually being debated, defined, and redefined as we learn more about the workings of the world. The appropriateness of our actions thus varies with the time, place, politics, and cultural context. So the sketchy remnants of an ancient Anasazi culture can come to be appreciated over time, but we are less tolerant of what some may view as their contemporary counterparts. We live in a different time, at a different place in history. Things are more crowded now. We are more sensitive to impacts. We know better.

At the same time, we need to be careful in our labeling of certain actions as "depreciative" or "vandalistic." The information is not all in. Our awareness of

¹ Christensen, Harriet; Dustin, Daniel. 1986. Reaching recreationists at different levels of moral development. Paper presented at the First National Symposium on Social Science in Resource Management, May 12-16, 1986. Corvallis, OR: Oregon State University

consequences will continue to expand. Today's admonitions will become tomorrow's afterthoughts. And our definitions will change accordingly. Our orientation to people, then, should be marked by a humility that comes with the realization that, as time goes by, we will know even better.

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Vandalism as a Symbolic Act in "Free Zones"

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Abstract

The concept of vandalism is analyzed as a symbolic act. An analysis of vandalism from a situational-positivistic, or a motivational-psychological, approach hardly gives an understanding of vandalism as a meaningful individual and social act. A humanistic and cultural perspective can supply ways to understand a nonprescribed behavior such as vandalism. The original meaning of vandalism is plundering and laying waste of a civilization's symbols and environment. This appropriation of physical environment also occurs in the industrialized societies' urban environment and then often is perceived as motiveless. "Free zones" develop in societies where norms and obligations are neutralized. Vandalism is nonprescribed in that it appears in these free zones where norms, obligations, utility, and common sense are switched off. The environment is "marked" by damaging or destroying objects to change the message of the physical milieu. Vandalism is a gesture of "negative honor," which reflects a complex of feelings. Vandalism comprises two sides of an autonomy problem: to be isolated from an unwanted membership (juvenile vandalism) and to be free of an unwanted outside position (adult vandalism). An essential question is which methodological and theoretical concepts a researcher in the social sciences should use to discover the rationality of vandalism and to make it comprehensible.

Keywords: Vandalism, symbolic, free zone, negative honor, autonomy, history, humanistic perspective.

The Concept of Vandalism

Studies about vandalism are often based on two fundamental viewpoints. The first explanation, the situational, is based on the viewpoint that opportunities and possibilities in the built environment are the essential factor explaining variations in the prevalence of vandalism. The second explanation, the motivational, means that vandalism grows out of a strong inner motivation and of a need by the perpetrators. Both of the explanations, the situational and the motivational, aim to give a rational basis to vandalism, which often is described as "malicious," "wanton," "motiveless," and "irrational."

The situational explanation tends to study a high crime rate in certain parts of a city rather than the city's overall high crime rate. With the aid of such concepts as "social control" and "sources of temptation and attraction," the interplay between environmental factors and vandalism is studied. The organization in time and space of people's social activities helps perpetrators to shape their motivation to act. For example, the more time people spend away from home, the less their residences are protected, resulting in increased opportunities for the offenders to come into contact with suitable targets. The increase in episodes of criminal behavior is seen as a rational basis for variations in crime frequency in different places in an urban environment.¹ The situational factors—i.e., the increase in available crime targets and the lack of surveillance—are seen as a result of increased "welfare" and "freedom" rather than of "social misery" (Cohen and Felson 1979).

Motivational explanations recognize those patterns of emotions, subjective feelings, experiences, and behaviors responsible for vandalism—for example, jealousy, vindictiveness, boredom, enjoyment, excitement, arousal, risktaking, disappointment, anger, hate, frustration, fear, and desperation. Researchers are more interested in an answer such as "of course, the vandalism behavior is motivated" than in asking where the vandal gets motives. They say the behavior has a reason but do not explain what it is. This interest in the motivation for vandalism concentrates attention on a psychological problem and on vandalism as an expression of "human drives."

A situational-psychological, or a psychological, approach hardly gives an understanding of how vandalism is a meaningful individual and social act, nor does it give insight into the social dynamics of vandalism. Another approach is to see vandalism as a symbolic act.

Vandalism as a Symbolic Act

Vandalism and Symbols of Civilization

The meaningless destruction of esthetic and cultural values of *l'ancien regime* during the French Revolution led the French bishop Henri Gregoire in 1794 to compare the destruction of monastery libraries and religious works of art with the plundering of Rome in 455 A.D. by the Vandals. This was the birth of the concept of "vandalism."

The object of vandalism is to achieve a ceremonial or ritualistic change rather than a real and effective change. The destruction by the Romans of Carthage in 146 B.C. was unnecessary for the military conquest but necessary symbolically for Rome in its

¹New types of expertise and consulting have emerged that relate to this area: risk management and municipal risk management.

role of growing empire. Another example is the rebellion of American colonists against the British in the Boston Tea Party in 1773.

Vandalism can be a solution when the preservation of sacred values (Becker 1950, Fallding 1965) encroaches on an agent's perceived options for freedom of movement. Although Tibet in 1951 already had been incorporated both militarily and politically into China, the religious autonomy of Tibet was crushed during the Cultural Revolution. The demand for more security and control resulted in the destruction of nearly all the 1,700 monasteries in Tibet.

Acts of vandalism can flare up in sudden outbursts. The decrease in secure jobs for skilled workers during the Industrial Revolution in the early 19th century in Britain led dissatisfied workers (the Luddites) to smash machines, which were seen by the workers as one of the causes of the cutting down of artisan labor and the cause of poverty. The Luddites attacked these symbols of exploitation and of the factory system. Also, food riots occurred among the poor. E.P. Thompson's book, "The Making of the English Working Class," led Hibbert (1987) to write:

Luddism erupted at a time when the old paternalist legislation that had to some extent protected the worker from unscrupulous manufacturer and unjust employer was being swept away; when the "shadowy image of a benevolent corporate state"—in which artisans occupied a lowly but nevertheless respected position in society—was being rapidly dispersed. Artisans and journeymen felt themselves 'thrust beyond the pale of the constitution' and robbed of those few rights they had previously enjoyed.

Vandalism can be considered a type of "nihilistic violence," directed at material things representing a superior order or an authority of a developed culture. Daniel Bell (1976) refers to Joseph Conrad's novel, "The Anarchist," in which the anarchist wants to destroy the Greenwich Observatory; that is, the anarchist wants symbolically to destroy the ultimate source of time, chronology, epoch, age, and the history of Western culture. Conrad's anarchist wants to cut off all ties with the entire society and must, therefore, aim arrows at targets completely alongside of humanity's normal strivings. Bomb tossing and random murders of bourgeois-type people could be brushed aside as class hate. Murder is almost an institution in society; illegal to be sure, but seldom incomprehensible. In such cases, the motives can be understood logically in terms of Western culture. Conrad's anarchist, in contrast, wants a destructive act so absurd that it is incomprehensible, unexplainable, almost unthinkable, and from all points of view nothing but insane. Madness as such is always frightening because it cannot be stopped by threats, persuasion, or bribes.

The Symbolic Meaning of Economic Excess

Material property and goods have a special importance in certain societies with a stratified existence of welfare and excess. Mauss (1970) describes how, on the occasion of "potlatch," the giving of gifts and the destruction of excess possessions among certain American Indians of the Pacific Northwest were prestigious means of publicly demonstrating personal wealth.

Baudrillard (1986) describes a "value revolution" in the economic growth societies of the West. Baudrillard means that a product's use value has been altered to a

symbolic value. For example, through advertisement, consumer goods have been endowed w'rth imaginary values. Things are no longer produced for actual use but, rather, for symbolic consumption. The destruction of material excess displays the agent's independence of other people and upper hand over property and goods. Debord points out (Ward 1973)"... that real needs are expressed in carnival, playful affirmation and the potlatch of destruction. The man who destroys commodities shows his human superiority over commodities."

Vandalism as Gesture and "Negative Honor"

The gesture of vandalism is most pronounced in cultures where a definite need exists to emphasize one's own position. This is especially true in societies having few meaningful positions and where individuals lack a sense of belonging. One way to call attention to one's importance is through provocative acts. In a meaningless world, all that remains are beautiful or noble acts, done for their own sake, or destructive gestures not rooted in any special purpose. The act's visible attributes have been separated from what the act represents.

Vandalism occurs when symbols of power and values of authority are destroyed or sullied in a conspicuous act of negative honor in the context of cultural profanation; that is, denigrating an existing culture's values (Goffman 1967). Actions motivated by feelings grounded in experiences of contempt and insult are not, however, blind impulses or outbursts of aggression. Actions of this type are related to the social importance of a symbolic value to the perpetrator. The perpetrator sees meaning in marking symbols of power over the physical environment.

As previously stated, the original meaning of vandalism was to plunder and lay waste symbols and environments of a civilization. Today, the concept is primarily associated with damage and graffiti in the urban environments of industrial societies.

The Symbolic Values of the Built Environment

Different environments can have different symbolic values. Various parts of the built environment can have meanings that are different for the resident, the stranger, and the city planner. Vandalism can be viewed as a form of nonverbal communication exemplified by the mutilation of objects and environments for which the perpetrator does not feel any "code fellowship."

Stronger feelings of familiarity for the "street territory" are felt if the perpetrator can mark and reshape that environment so that ordinary people feel afraid and insecure when they are there.

² A new type of vandal is described by Gibbs (1987) in *Time*. Florence, Venice, Athens, and other classical cities are threatened by the New Barbarians, who subject classical buildings to damage by carving initials and chopping off pieces. "As Europe enjoys—and endures—another season of mass tourism, hospitality is fast becoming an exercise in damage control." Mass tourism "poses the risk of serious consequences (or our social and natural environment. But while the rash and adventurous increasingly seek out virgin land, Western Europe remains the mecca for the package-touring, Eurailpassing, picnic-toting traveler. The rushed, low-budget tourists, officials suggest, contribute much of the damage and little of the profit. 'It is the fast food of tourism,' argued Antonio Oedema, an Italian Member of Parliament who has long lobbied for environmental protection. 'The very contemplation of works of art becomes a rapid, superficial consumption.'"

Vandalism as a Nonprescribed Act in "Free Zones"

Free Zone and Social Structure

The presence of vandalism nurtures apocalyptic trains of thought, where the termination of civilization, reason, and enlightenment comprise the definitive threat against normal strivings and competition.²

The destruction, for example, of Carthage and of the library at Alexandria often stand out as apocalyptic occurrences and as illustrations of the collapse of civilization. A civilization's social change can be seen as a result of sudden occurrences of this type. The reaction to vandalism has often been moral (Cohen 1980). Bell (1976) claims "... that the time-dimensions of social change are much slower, and the processes more complex, than the dramaturgic mode of the apocalyptic vision, religious or revolutionary, would have us believe."

The emergence of the possibility, through vandalism, of belittling and desecrating the authority system is dependent on the character of the process of historical change and its ability, at certain times, to create openings and room for contradictions and value conflicts, and also possibilities for actors to symbolically destroy sacred values.

In these slow processes of change, the interrelations between political, cultural, and technical-economic structures change. These three realms, Bell continues, "...are not congruent with one another and have different rhythms of change; they follow different, and even contrasting, types of behavior. It is the discordances between these realms which are responsible for the various contradictions within society" (Bell 1976).

Bell underlines the point that society no longer is a congruent web of links between different spheres. Society is today "... not integral, but disjunctive; the different realms respond to different norms, have different rhythms of change, and are regulated by different, even contrary, axial principles" (Bell 1976).

An important aspect in social change is in the concepts of "sacred" and "secular." According to the interpretation given these words by Becker (1950), these concepts are not synonymous with words such as "holy" and "profane." Becker uses the concepts sacred-secular to refer not to certain values, but to the conflict that arises when values are preserved in society (Fallding 1965).

Vandalism is limited in time and space. It is not a sure solution, for example, to submission, repression, and coercion. A prerequisite for vandalism is, generally speaking, a "free zone" that comes into being when definitions of reality are not valid or powerful enough to replace the dominant order's sacred values, and when the actors can perform the deed within their conceptions outside of these sacred values.

A "free zone" can come into being when new definitions of reality are not powerful enough to replace the old order's sacred values; for example, Carthage and Tibet. A free zone can also come into being when old definitions of reality are not powerful enough to hold back a new order's sacred values; for example, the Luddites.

The sluggishness of social change and the emergence of free zones is clearly evident when agents in an existing culture define a new social and cultural order to which others offer resistance and inacceptance (Becker 1950). In this asymmetrical relation, the symbolic aspect of the relation to other actors begins to overshadow the objective component. This kind of conflict then no longer concerns a particular question but, rather, a series of values expressed as demands for security. The actor's own security cannot be allowed to be built on the good will of others or on others' definition of social order. The possibility then remains, through the act of vandalism, of belittling and desecrating symbols of others' power and values. This becomes a sort of proof of one's own superiority.³

This conflict becomes explicit in historical situations that contain competing definitions and conceptions about the social and cultural order, when the agents above are free to act in accordance with their conceptions. Under these conditions, there is scope for free zones in the social structure. Other types of conflicts do not necessarily lead to this room for free zones—e.g., conflicts between interests or power elites, a totally monopolistic suppression, or social disorganization.

A Place for Vandalism

In a study (Roos 1986), I introduce the thesis that vandalism is related to the character and meaning of social space as "norm zone," "free zone," and "prohibition zone." (see fig. 1) In free zones, as mentioned before, established norms and obligations are neutralized. This can be brought about through appropriation of the physical environment (for example, streets) and through "marking" symbols of power (for example, school vandalism). The concept of "free zone" attaches to a human ecological perspective of social space, which gives attention to the tensions between behavior and norms.

Norm zones, prohibition zones, and free zones constitute not only a local aspect in the urban environment, but also a historical phenomenon. Each society has a lower limit for what is permitted (acts of obligation), as well as higher demands, for an honorable morality (acts of excellence) (fig.1).

Damaging behavior resulting from deviations from acts of obligations (for example, during plundering and raids and also the type of damage that Cohen [1973] has labeled acquisitive, tactical, and vindictive vandalism) can be understood as socially accepted desire for justice or for material and economic gain. Deviation from acts of obligation (prohibition zone) is, then, if not socially accepted, at least socially understandable.

³ The act of vandalism can in this context be seen as a defense for social recognition. Vandalism becomes a deed or a gesture performed in front of an observer. To destroy others' symbols is to convert the others to objects. This can appear to be a way to leave the battle as victor. This is doomed to fail, however, for the other cannot, in the role of object, acknowledge and confirm my freedom (Sartre 1983). An analysis of this type presupposes a more careful study of interactionistic sociology.

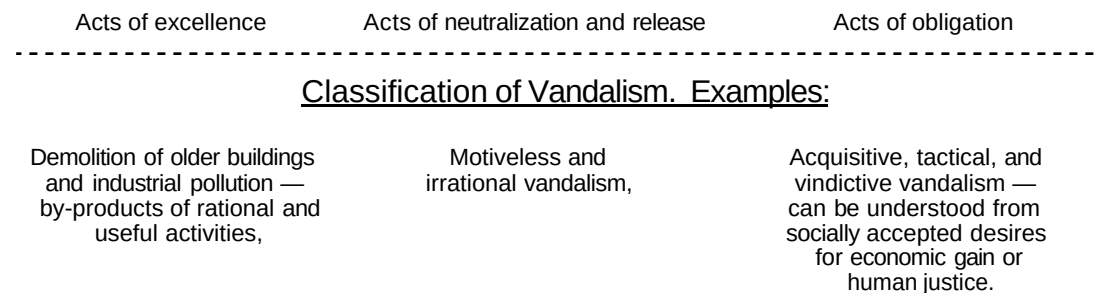


Figure 1—Vandalism and "free zones."

Demolition of older buildings and industrial pollution can, on the other hand, be understood as by-products of what are felt to be rational and useful activities—acts of excellence—for example, in the name of modernization or renewal. This type of vandalism and action is institutionalized as prescribed and predicted behavior and belongs to the "norm zone" in society. The presence of malicious, wanton, motiveless, and irrational vandalism presupposes the presence of a free zone in society, which gives scope to provocative and unmotivated conduct that switches off established sets of rules.

The relation between these zones is different in different countries. The emergence of free zones is currently associated with the extreme development in the industrialized consumer societies. In countries with widespread material poverty, free zones of this type hardly exist because even the very young have an obligation to help the family make its living. In many Eastern countries, through the absence of a developed consumer industry and the presence of a control apparatus that intervenes in daily life, prohibition zones have grown at the expense of free zones. In countries such as Switzerland, the norm zone grows strong because of the conservatively decentralized system.

The establishment of a free zone through the act of vandalism implies power and freedom for the perpetrator to belittle and declare invalid the society's symbols for power and respectability. The act of vandalism is more a way to free oneself from a system than to revolt against it. An illustration of the emergence of the present Swedish authority structure is made clear in the following text by Alva Myrdal (1935), one of the Swedish welfare state's first ideologists: "... the coercion takes on another character: there is order instead of obedience. The personal and impulsive are lost and are replaced by general rules having a democratic impersonal character. Its characteristic is therefore not subordination but conformity."

Vandalism and Emotions

The act of vandalism does not constitute total behavior such as can be derived from a special passion, obsession, or compulsive desire, such as, for example, a passion for gambling, which can often affect a person's entire life. Vandalistic behavior is not an expression of a certain type of personality, a certain identity, a certain subculture, a certain life style, or any typical kind of character traceable throughout history. The characteristic of vandalizing is that it is a temporary act performed sporadically under

certain circumstances. It does not involve continuous activity that could give rise to a certain type of identity. The vandalism act is responsive and, therefore, changeable and temporary.

Vandalism does not belong to ordinary life; rather, it is an interruption of it. The rules set up by tradition are violated. Vandalism is an activity limited in time and space. It is enacted during a certain time (leisure time) in certain places (the street, stairways, subways, and other public areas). Vandalism is not enacted at previously set times and places reserved or prescribed for vandalism. In principle, one can vandalize anywhere at any time. When vandalism breaks out, time and space are altered to a free zone.

The act of vandalism is multifaceted in its motives, with a complex pattern of feelings, senses, and reason at work. According to Kemper (1987), primary emotions—fear, anger, depression, and satisfaction—are physiologically grounded; and secondary emotions—guilt, shame, pride, gratitude, love, nostalgia, ennui—are empirical outcomes of social relations. These secondary emotions are acquired through socializing influences that define and label such emotions: guilt is a socialized response to the arousal of the physiological conditions of fear, shame to that of anger, pride to that of satisfaction, and so on.

One does not attain an understanding of the implications and the meaning of vandalism through defining and measuring, for example, specific feelings such as anger and fear. The important thing is how the expression of these feelings gets a social meaning through the act of vandalism.

One cannot *a priori* take for granted either these secondary emotions or the existence of free zones; rather, they get their importance and meaning in a cultural context. Emotions associated with vandalism must be understood in relation to the context.

The hedonistic motive for vandalism and juvenile delinquency has often been emphasized. Alien (1984) points to the vandalism act's esthetic character ("breaking is beautiful") and points out that the act constantly must reach new heights for the motivation not to lose in intensity. Matza and Sykes (1961) point to the existence of leisure time values such as looking for excitement and new "kicks" being better able to explain juvenile delinquency in the middle and upper classes than concepts such as deprivation and social disorganization.

Young (1972) suggests that leisure-time values historically have appeared when work ethics and values about work have changed. The Protestant work ethic differs from the instrumental work ethic, according to Young. Within the Protestant work ethic, a person's true nature and position in the world are achieved through dutiful and self-sacrificing work. In a work ethic characterized by instrumental values, leisure is seen as a reward for hard work, and during leisure time, one's identity can be shaped. Work turns into being a means, having earlier been an aim in itself. Pleasure is legitimized by hard work. The consumption of leisure time is subordinate to the productivity of work and constitutes a sophisticated form of social control, according to Young.

Hedonism, excitement, and new experiences often are seen as being connected to a special aspect of leisure time—namely, play. During play, one climbs out of ordinary or "real" life to a temporary sphere of activity where the act becomes a goal in itself. Attitudes toward play are ambivalent. For some, play is a recreation away from work; for others, play is a necessity for personal identity (see Young 1972, p. 129-130; Asplund 1987, p. 17).

In a society in which realistic choices of occupation disappear for many and are converted to a series of dead ends, conventional leisure activities lose much of their meaning and significance (Christie 1975). Education becomes more symbolic than functional; that is, school teaches the value of delayed satisfaction of desire rather than being a path to a position in the job market.

Hedonism's effect lacks a connection to respect, convention, idealization, and subordination. The battle against teachers, against police, and against buildings and institutions contains feelings of anger and hate—or of excitement and enjoyment. In both cases, it leads to personal actions intended to affect reality and, at best, produce a feeling of omnipotence. This motivation has little in common with traditional childish pranks. To harm others—or oneself—is a matter of securing intensity in personal experiences and adventures (Ziehe 1986).

Feelings and conditions often at work in the act of vandalism are desperation and enjoyment. A feeling of desperation can arise during experiences of outsidership and isolation from social dealings one wishes to be part of. A feeling of pleasure often arises in social situations where participation in group activities plays a prominent role. The perpetrator can experience feelings of power and freedom—that is, autonomy.

The struggle for a liberated zone, a free zone (that is, a safeguard against being absorbed by a social condition or a cultural system one feels alien to), is an autonomy problem. Autonomy contains a demand for both freedom and participation. The act of vandalism is, in this sense, ambiguous: it is supposed to fulfill the demands for both independence and acceptance. The agent, through the act of vandalism, is shut off from membership and is freed from being a marginalized outsider. The autonomy problem corresponds to two types of vandalism—juvenile vandalism and adult vandalism.

Not only juveniles commit property-damaging crimes. About 40 percent of such crimes reported to the police in Sweden are committed by perpetrators over the age of 25. To be sure, juvenile vandalism is highly underrepresented in crime statistics, but they do show that adult vandalism constitutes a substantial reality.

Juvenile vandalism often appears spontaneously in social situations in which group interaction is taking place. Something should happen in contrast to nothing happening (Corrigan 1982). This "something" often constitutes a mutual enjoyment in experiencing pleasurable and exciting happenings but also gives a feeling of power and freedom.

Vandalism and Autonomy

Juvenile vandalism also has a deeper undercurrent of desperation—a repudiation of school, leisure institutions, club activities, and the adult world's authority on the whole. It implies a provocation and a denigration of the well adjusted and the normal, and a resistance towards all too quickly being absorbed by a system one feels alienation towards. To many young people, society appears to be an organized network of duties and rules that misrepresent their actual available choices and futures. Juvenile vandalism is a matter of disassociating oneself from an association not seen as meaningful.

Adult vandals are often outside of the worlds of job, family, and society at large. To a great extent, they are poorly educated, single, and unemployable. About 75 percent of property-damaging crimes caused by known perpetrators are done under the influence of alcohol. Damage is common in residential areas with a high proportion of unemployed, social welfare clients, and high mobility. Among adults, vandalism is, to a great extent, performed singly.

Adult vandalism's meaning is to free oneself from an unwanted outsidership: "I was walking on the sidewalk and suddenly my clog was in the window pane" (man who smashed a window of a restaurant so the glass slivers landed in a family's Sunday dinner). "She doesn't need to have a nice cozy place around her" (man on sick leave, whose driver's license had been taken away, threw a rock at the bedroom window of a former female companion).

The vandalism act, as such, often appears to be unmotivated and incomprehensible. The act, for example, does not result in any economic or material gain. Vandalism should, instead, be viewed as a symbolic act, a symbolic violence which, first and foremost, implies a rejection and denigration of the unspoken rules of the game but also as a declaration of a new affiliation and a personal independence. At its deepest levels, vandalism is connected to the problem of integration in the society. (See fig. 2)

One meaning of vandalism (to free oneself of unwanted marginalization) especially applies to marginalized and weak groups in the society, in which societal pressure and subordination have led to a state of resignation and indifference. The other meaning of vandalism (to shut oneself off from membership) concerns people who experience their integration into society as a threat to personal independence and dignity.

Desperation develops in answer to undesired duties and obligations that must, if they cannot be accepted or neutralized, be destroyed. An underdog can never compete with a developed culture's sophistication and authority. Belittlement, desecration, and destruction are often the only weapons the underdog can use. The reaction of young people in today's industrial society need not stem from a protest against the contents of the values as such or in experiencing of frustration at not living up to the ideals of the established adult society. Through judging reality and testing the actual consequences of the stated values, they discover the invalidity, pretentiousness, and duplicity of the values.

Adult vandalism

Free oneself of undesired separation

Anomie

Lack of social ties and excess of nonmeaningful choices.

Juvenile vandalism

Detach oneself from a membership
not felt to be meaningful

Alienation

Excess of social ties and lack of
actual choices.

Figure 2—Vandalism and social integration.

In the vandalism of the future, the capacity of young people for creating their own free zones may be more highly aimed at sabotage, the purpose of which is to confirm the vulnerability and invalidity of the social order. In West Germany, one of the computer industry's biggest markets, special groups exist that infiltrate the data bases of major banks to reveal the system's vulnerability.⁵ Ward's (1973) argument takes up the emergence of antisocial leisure cults, the purpose of which is to beat the system. Ward states "... that the distinction between the vandalism of delinquent subcultures and that of disaffected ideologies will merge and blur." Ward also predicts "... an ultimate alliance between the lumpen-proletariat... and the drop-out intelligentsia."

The breaking up of the puritanical ethic's⁶ union between private greed and public responsibility (that is, the union between economy and culture) has resulted in pleasure seeking and instant gratification becoming disengaged. It would be closer to the truth to say that desire and gratification join hands with blasphemy and contempt rather than with respect, ideals, and ideological reorientation.⁷

⁵ Article in Dagens Nyheter (daily Swedish newspaper, published in Stockholm), October 25, 1987.

⁶ The emergence of the Protestant work ethic resulted in both a revolt against authorities and a need (or personal freedom liberated from the old society's supremacy but also tied to the calling to duty and to worldly and profane work. Roman Catholics find absolution in the confession; however, Protestants require substantial freedom of movement to enable them to seek the true road to salvation. In Protestant countries, conflicts occur between strict morality and free thinking, between implacable fatherly authority and tolerance, between gloomy piety and broad-mindedness, and an apartheid between body and soul. These spheres of conflict give motivation as well as scope for the act's free zones.

⁷ The importance of hedonism, pleasure, and kicks for young people has often been emphasized by various researchers; for example, Alien 1984, Bell 1976, Matza and Sykes 1961, and Yablonsky 1969.

Social Science and Vandalism

The social sciences traditionally have identified two basic ways of viewing social reality: that based on the natural sciences and that based on cultural or humanistic ideas. The former is characterized by causal thinking that presupposes the existence of a logical sequence of cause-and-effect events, whether the matter at hand concerns objective variables or the means and goals of human acts. Observed facts are tested against a theoretical-deductive system with the aid of operational concepts. Propositions become explanations of what is "real."

Studies of vandalism are included in a multitude of analytical models and approaches. In the literature about vandalism, the term covers several definitions and classifications for behavior, motives, objects, consequences, and reactions (Roos 1986).

The limitations of the natural-science-based approach become especially evident in difficult questions in criminology, such as whether criminal acts are the responsibility of the criminal (Bruyan 1966). A great deal of sociological theory has been built around concepts of reason and rationality. This rationale is a consequence of sociology having developed in societies where ideas about social change on a rational basis are in the foreground. Because rationalism often falls short of the ambition to find ways to understand current problems in society, the possibility increases that an apocalyptic notion will emerge. Commonly, this happens concerning a nonprescribed phenomenon such as vandalism.

The humanistic perspective endeavors inductively to discover the social and cultural spheres having importance for acts and ideas—the approach termed the "humanistic coefficient" (Znaniecki 1952). Perhaps vandalism belongs to phenomena occurring outside strict causal or ideological principles—phenomena not fitting the assumptions behind these principles. The cultural meanings of humor, ribaldry, eccentricity, and the macabre affect human behavior but are seldom included in behavior studies (Bruyan 1966).

Viewing the concept of vandalism either as operational or-theoretical is hardly fruitful. The concept of vandalism is usable, however, when certain historic events and realities are referred to. Vandalism or damaging is not a formal concept; rather, it fits into the category of "sensitizing concepts." This kind of concept gives reference to one's own experience—a general orientation, rather than a precise definition—to a phenomenon studied.⁸

Bruyan (1966) emphasizes the difference between concrete concepts and sensitizing concepts. Concrete concepts give knowledge, for example, of the vandalism act as an experience. Sensitizing concepts give knowledge about the idea of this experience. Knowing people is personal and social; knowledge about people is intellectual and theoretical. Cohen (1984) makes a similar epistemological distinction between "his reasons" (the actor's personal explanations) and "the reasons" (external explanations by observers). The distinction is important because it exposes a basic problem in the sociology of knowledge. Those assertions made by the actor about

⁸ For more on "sensitizing concept," see Blumer (1954).

the actor's own experience and way of acting, Cohen claims, cannot be reduced to *ex post facto* rationalizations of unconscious and hidden motives or a false consciousness.

This standpoint is especially important in an analysis of vandalism, because the actor, according to the actor's own conception, seldom can present motives for the act. The thought that an act of vandalism detaches an actor from the past or from normative traditions lived with raises the experience of vandalism (a concrete concept) to an idea about it (a sensitizing concept) (Bruyan 1966).

The saying, "There's nothing so practical as a good theory," is especially relevant to the question of vandalism. An important question for future research is whether vandalism constitutes a special type of behavior with its own rational basis separating it from other behavior. Important questions are: To which problem is vandalism the solution? Are realistic alternatives to this behavior available? How is vandalism as a meaning-laden individual and social act constituted?

Situational and motivational explanations have a hard time coming up with something meaningful in answer to such questions. Proponents for the situational perspective mean that criminal acts are a result of conscious choices and decisions (dark 1980). Rational choices in this connection need not mean that people are entirely aware of all the reasons for their acts. According to this view, the majority of crimes today are committed because they are simple to commit and not because of a strong inner motivation (dark 1980). Mobility in people's routine daily activities has led to more opportunities for crime to occur (Cohen and Felson 1979). In this respect, the opportunities help shape the perpetrator's motivation to act.

The situational theory does not merely presuppose that the perpetrators have rational utility motives and goal orientation. Besides the reward factor, the calculation also includes risk factors such as being discovered and getting caught. The situational theory pays attention to opportunities during recent decades for crime in the urban environment of the industrial societies. On the other hand, the theory has no explanations for why these opportunities result in vandalism.

Motivational explanations present a series of difficulties: How are internal feelings and desires related to external demands and expectations? Under which circumstances does a motive or a complex of motives result in action? Why does the perpetrator then destroy? Under what circumstances do feelings such as anger, desperation, and excitement result in vandalism? Why are some milieus more than others the object of vandalism?

These two types of explanation can neither each alone nor both together give a consistent conceptualization capable of shedding light on the act of vandalism.

In the classical sociological tradition, two types of social acts are differentiated. Lewin (1951) distinguishes between, on the one hand, actions emanating from feelings, habits, needs, and motivations; and on the other hand, actions that concern "doing something better than before" (for example, acquiring new knowledge and giving occurrences a new meaning). The difference can be compared to Tonnie's

(1974) distinction between actions based on folkways, mores, and habitualized knowledge (for example, a culture's shared way of comprehending reality ["*Wesenwille*"], and actions that are rational, calculating, goal-oriented, and do not take the *status quo* for granted ["*Kurwille*"]). In the former, the actions strengthen integration, tradition, and common strivings; in the latter, the actions strengthen unity and the associations of different rational wills.

Vandalism as a type of action is more related to *Wesenwille* than to *Kurwille*. In that the vandalism act is an expression of an inability to verbalize the social meaning of the act. Compare Polanyi's concept "tacit knowing" (Polanyi 1967). This inability to reflect upon the conditions that govern one's own actions need not be due to "repressions" or "false knowledge." On the contrary, the motives in operation for an action can be a part of the practical tacit knowing which is put to use and functions in the survival strategies of everyday life (Argyris and others 1985).

The target of the vandalism act is the symbols of a certain social integration. The vandalism act is nihilistic in that it aims its destruction at the established values and rules of play of a social order. Earlier in this paper, it has been shown that the vandalism act is disintegrative in two ways—partly by deed pointing out that one has ended up outside of a togetherness one wishes to belong to, and partly by deed indicating a distance from a common belonging. Thus, the vandalism act should be understood in terms of integration and action in free zones and not in terms of rational and irrational behavior.

The two types of vandalism discussed, juvenile and adult, illustrate two types of integration problems. Juvenile vandalism is a matter of detaching oneself from a well-defined alliance not felt to present meaningful choices and actions. Adult vandalism is a matter of freeing oneself from a situation providing diffuse or weak social ties to other people and to society. The former integration problem is associated with alienation, the latter with anomie. (See fig. 2.) Changing the conditions for one's own integration into the society is a difficult task, but available and vulnerable symbols for these conditions can be made the object of reactions and actions—for example, vandalism.

The starting point for an analysis of vandalism should not be feelings and motives or the environment's design. The basis for an analysis of vandalism is, rather, theories about social action and social integration. In this paper, I have demonstrated that vandalism is a symbolic act and that the necessary conditions for it are the existence of "free zones."

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Characteristics of Trailhead Vandalism in the Pacific Northwest

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Abstract

Maintaining acceptable conditions to enhance recreationists' experience in outdoor settings is an important job for managers. This job is difficult where vandalism or breaking and entering of vehicles occurs. The purpose of this paper is to describe the nature and extent of vandalism at forest (railheads, and to identify characteristics that may predict the incidence of vandalism there. Data were collected from two companion studies: a written questionnaire administered to managers with the Forest Service, National Park Service, Bureau of Land Management, and Army Corps of Engineers in California, Oregon, Washington, and Alaska during 1982; and informal conversations with managers in Oregon and Washington during 1985 and 1988.

Targets for (railhead vandalism were either trail users or the trail-managing agency. Vandalism was of two corresponding types: breaking and entering vehicles parked at the (railhead, and destroying and damaging facilities, such as signs and bulletin boards at the trailheads. Eight characteristics emerged as potential indicators of trail-head vandalism, based on managers' perceptions of heavily vandalized (railheads: amount of use, patterns of use, access for the vandal, perceived chance of getting caught, public familiarity with the (railhead, opportunities for vandalism, other uses of the trailhead, and availability. Heavy use and inconsistent patterns of use were correlated with vandalism—vehicle breaking-and-entering and facilities damage. The vandal's perception of not getting caught, access, and public familiarity with the trail-head were indicative of vehicle breaking-and-entering, but not of facilities vandalism.

Keywords: trailhead management, vandalism, theft, depreciative behavior, perceptions, survey methodology, telephone contacts, content analysis.

Introduction

Establishing and maintaining acceptable conditions to enhance outdoor recreation experiences for users is an important job for land managers. One setting that lacks objective information is the (trailhead—a place where recreationists leave vehicles—for a few hours or a day to go fishing or a week to go hiking—sometimes returning to their vehicles to find damage and destruction (Marshall 1987).

"Trailhead" is defined as a place where people regularly park their vehicles for several hours or days, to hike or ride to a distant destination. Trailheads may be large or small, developed or undeveloped, and sometimes just pull-outs on the road. They may be associated with picnic areas, campgrounds, or dispersed sites, if they have parking for trail access points.

Trailheads are important to both managers and users. For users, a trailhead may communicate information (for example, trail distance and elevation gain); interpret resources or the early history of the area; and provide amenities, such as places to park and restroom facilities. The manager is responsible for managing the trailhead—providing for user needs, maintaining safe and satisfying environments, and communicating information, such as restricting or directing visitor use to appropriate areas.

Trailheads also provide opportunity for vandalism because vehicles that may contain valuables are unattended for many hours. Vandalism at the trailhead may interfere with important functions, such as communicating information. In addition, vandalism and theft can create significant user dissatisfaction.

A documented history of trailhead vandalism and theft is not now available, although some managers may be able to piece together a fairly accurate evolution through management records. What phases have trailheads passed through? Car looting (breaking and entering) is assumed to have occurred before the 1980's—at least back to the early 1970's, as use increased in outdoor areas. Knowing how conditions have changed since the 1960's would be interesting. Have opportunities for vandalism increased? Have theft and vandalism become profitable?

Managers and users report that vandalism at selected (trailheads is a major concern (Christensen and Davis 1984, Marshall 1987). But other than managers' perceptions about vandalism at wilderness trailheads (Washburne and Cole 1983), little is known. Our review of the literature revealed no objective information on the magnitude of destruction and disturbance at trailheads. Philley and McCool (1981) studied perceptions and practices in the National Park system and found that the "heavy-handedness" of enforcement policy was affected by perceptions of vandalism. Moreover, incidents of vandalism may lead managers to adopt rules and enforcement practices that they otherwise might have dealt with in other ways.

The purpose of this paper is to describe the nature and extent of disturbance and destruction at trailheads, and to identify characteristics associated with vandalism there.

Methods

Data for this study were collected in two phases. Phase 1 assessed the magnitude and dynamics of impacts under the jurisdiction of five land-management agencies on the west coast and Alaska. Managers' perceptions of impacts at (railheads were part of this effort. Phase 2 focused only on (railhead impacts and specifically was concerned with impacts on lands administered by the Forest Service in the Pacific Northwest.

Phase 1

Specific objectives of phase 1 were to determine managers' perceptions and experiences with the magnitude and importance of depreciative behavior; acceptability of various behaviors at recreation sites; contributing factors to vandalism and other acts; and effectiveness of different control strategies.

Self-administered questionnaires were completed by managers in the Forest Service (FS), Bureau of Land Management (BLM), National Park Service (NPS), Fish and Wildlife Service (FWS), and Army Corps of Engineers (ACE) in California, Oregon, Washington, and Alaska during 1982.

A census of specialists in law enforcement, planning, cultural resource management, maintenance, and recreation resources was conducted; four questionnaires were sent to each Forest, and three to each District. Similar numbers of questionnaires were forwarded to other agencies. To encourage participation, cover letters from the appropriate regional directors. State directors, or regional foresters were included with the questionnaire. A total of 394 addresses received questionnaires, of which 364 returned at least one questionnaire, giving a return rate of 92 percent; 667 managers completed and returned the questionnaires.

The mailed, self-administered questionnaires had two advantages. The procedure was low cost and at the same time provided responses from large numbers of managers, thus collecting a variety of perceptions and experiences about managing antisocial behavior.

Phase 2

Phase 2 involved telephone conversations with FS managers in Oregon and Washington during 1985. This technique enabled us to probe for details about vandalism at trailheads and to clarify concepts and perceptions when initial answers were vague (Dillman 1978, Kidder and Judd 1986).

Recreation staff officers at 19 National Forests were contacted to determine their perceptions of vandalism at (railheads; 91 Districts in Oregon and Washington were contacted, and conversations were held with the District recreation officer, trail specialist, or other knowledgeable person. One Ranger District on the Idaho side of the Hells Canyon National Recreation Area was also contacted at the suggestion of the Oregon counterpart. Ninety Districts had trailheads. They reported a total of 800 "formal" (railheads—those designated and with facilities and services provided by the agency—and more than 529 informal ones, which are regularly used by the public but without facilities or regular services provided by the agency.

Notes on each telephone conversation were made on individual recording forms. To the extent possible, actual words and phrases used by the managers were recorded. This process necessarily involved a degree of interpretation on the part of the

researcher. Quantitative information is least prone to possible interpretive bias and was elicited whenever possible. But while managers were asked to clarify qualifiers such as "light" or "occasional" into actual numbers, often such numbers were unknown. Nonquantitative descriptive and nominal information thus make up much of the data.

The telephone contacts with managers were informal. Although the researcher had many topics to cover, they were not discussed in a particular order. All discussions were open-ended; new leads and ideas brought up by a manager were probed and followed in an effort to garner as full and distinct an image as possible of trailhead vandalism in the District. These ideas would be subsequently pursued with other Districts. Under this procedure, the comments of the managers obviously were influenced by how a specific topic was raised, and its relation to previously discussed issues.

Twenty-four categories of information were determined from the conversations, covering the number of trailheads, the amount and type of use, facilities at the trailheads, distance from trailheads to the nearest town, kinds of vandalism experienced, the impacts considered most serious from a management standpoint, changes in the amount of vandalism over five years and by season, amount of vandalism at other recreation facilities on the District, whether users made inquiries about trailhead problems, and perceived characteristics of vandalized trailheads.

Each District respondent was asked what made more highly vandalized trailheads in the District different from less vandalized ones. We analyzed their comments on this question to identify possible common characteristics associated with problem trailheads. The procedure for this content analysis is as follows: A verbatim list was prepared of each attribute named by the Districts (most named more than one) as distinctive of vandalized (trailheads). Different wordings that named the same attribute (based on our interpretation of the words) were collapsed into one. Attributes with related, but not necessarily identical, meanings were grouped together. From these groupings, the following eight characteristics emerged: amount of use, patterns of use, access, perceived chance of getting caught, public familiarity, opportunities for vandalism, other uses, and availability. The characteristics are defined in the discussion section.

Results

Results are presented in the following order: kinds of vandalism experienced at trailheads and characteristics of vandalized trailheads.

Kinds of Vandalism

What kinds of vandalism occur at trailheads? Do managers' perceptions differ among agencies and regions? Table 1 summarizes managers' reports of the most important impacts at trailheads in 1982.

The first, and perhaps most obvious finding is about damage to personal property, such as breaking and entering of private vehicles parked at trailheads. More FS and NPS managers (33 and 25 percent, respectively) than from the other agencies listed this as a problem. Forest Service Regions 5 and 6 reported damage to personal property as a problem (40 and 32 percent, respectively); however, such vandalism is seldom reported in Alaska. One reason may be the lack of large urban centers near

Table 1— Percentage of managers reporting impacts at trailheads in 1982

	Agency®					
	All	FS	NPS	BLM	FWS	COE
	<i>Percent</i>					
Vandalism to personal property	24	as ^a	25	5	4	6
Litter	23	22	12	23	24	15
Vandalism to signs and bulletin boards	20	24	14	13	11	17
Number	667	402	59	112	46	48

	Forest Service Regions		
	California (5)	Oregon and Washington (6)	Alaska (10)
	<i>Percent</i>		
Vandalism to personal property	40	32	4
Litter	20	22	39
Vandalism to signs and bulletin boards	46	23	22
Number	181	193	28

^a FS = Forest Service, U.S. Department of Agriculture;
NPS = National Park Service, BLM = Bureau of Land Management;
FWS = Fish and Wildlife Service, U.S. Department of the Interior;
COE = Corps of Engineers, U.S. Department of the Army.

^b To obtain percentage of responses in which managers did not report vandalism to personal property as a problem, subtract 33.0 from 1000 percent. Multiple responses were reported; sometimes managers reported more than one problem.

Alaska trailheads; later, we discuss the related issues of access, user types, and who the vandals may be. As shown in table 2, more information on breaking and entering of vehicles was revealed from telephone contacts in 1985.

Damage to vehicles parked at trailheads is reported by about half the Ranger Districts, but some vehicle damage occurs in 15 of the 19 National Forests. Most damage results from break-ins and theft from the vehicles. The occurrence of this problem is steady or increasing slightly: the Okanogan, Gifford Pinchot, Mount Hood, and Wenatchee National Forests each had more than one District that reported an increase in vehicle break-ins from 1980 to 1985. Fifteen (16 percent) of the Ranger Districts considered vehicle break-ins to be their most serious problem at trailheads. A followup conversation in 1988 with 20 Ranger Districts showed no change. Although people may be aware of the possibility of break-ins, the relative cost to hikers and the Districts is not actually known. Certainly, returning after a hike or ride and finding your vehicle broken into is an experience to be remembered, but not fondly.

Our second finding concerns litter as a trailhead problem. Littering was mentioned in 1982 by nearly one-fourth of the FS, BLM, and FWS (see table 1). Among the three FS regions, Alaska stands out, with 39 percent of the managers reporting litter as a problem. We do not know if this reflects different management practices (such as more garbage cans and frequent maintenance), differences in outdoor ethics among regions, or perhaps just different expectations as to what constitutes a litter "problem." Also, 22 percent of the managers in FS Region 6 mentioned litter as a problem in 1982, but only 10 percent of the Districts in this Region reported litter problems in 1985. We do not know if this reflects actual decreases in littering or changed perceptions by managers, or if it resulted from different study methodologies.

Third, vandalism to facilities such as trailhead signs and bulletin boards is mentioned somewhat more often as a problem by managers in the FS than in the other agencies (table 1). Forest Service managers in California were twice as likely (46 percent) to report sign and bulletin board damage as their counterparts in Oregon and Washington (23 percent) and Alaska (22 percent). Reasons are open for speculation. Responses from FS District managers in Oregon and Washington in 1985 were that vandalism to facilities was the most prevalent problem (table 2). Eighty-eight percent of the Districts reported damage to facilities. Sixty-nine (77 percent) of the Districts considered facilities damage to be the problem with the most serious impact at trailheads. Most Districts, however, thought the problem was steady or decreasing; only the Okanogan National Forest had more than one District report increasing problems. Why damage to facilities was perceived as more of a problem in 1985 than in 1982 is not known.

Last, vandalism to natural features is not widespread in Oregon and Washington, and was considered the most serious problem by only three Ranger Districts in 1985 (table 2).

In summary, managers reported damage to facilities, breaking and entering of vehicles, and littering at trailheads. The 1982 data (table 1) showed the aggregate of managers from all agencies reporting vandalism to personal property as somewhat more of a concern than facility damage, and on par with littering; but differences in

Table 2— Percentage of Region 6 Forest Service Districts reporting trailhead problems in 1985

Type of problem	Percent	(N)
Damage to vehicles:		
Break-ins (theft from cars)	46	(41)
Nontheft damage	6	(5)
No vehicle damage	54	(49)
Direction of change		
Increasing	13	(12)
Steady	22	(20)
Decreasing	9	(8)
Don't know or did not say	1	(1)
Damage to facilities		
Some	88	(79)
No damage to facilities	10	(9)
Direction of change		
Increasing	10	(9)
Steady	57	(51)
Decreasing	20	(18)
Don't know or did not say	3	(3)
Litter	10	(9)
Damage to natural features		
Some	31	(28)
No damage	67	(60)
Don't know or did not say	2	(2)
Problem considered most serious		
Damage to vehicles	16	(15)
Damage to facilities	77	(69)
Damage to natural features	3	(3)

levels of concern existed between agencies and between Regions within the FS. The Oregon/Washington Region reported vandalism to personal property as the major concern in 1982, followed by facilities damage and litter. In contrast, in 1985 and 1988, FS District personnel in Oregon and Washington perceived facilities vandalism as the most serious problem by a wide margin. Reasons for these differences are unknown; objective information is needed to clarify them.

Characteristics of Vandalized Trailheads

The comments gathered in 1985 from the Ranger District representatives on what made more heavily vandalized trailheads different from less vandalized ones were categorized according to the eight characteristics identified in the content analysis. Figure 1 shows the responses for those Districts with only facilities damage at trailheads and for those with vehicle break-ins.

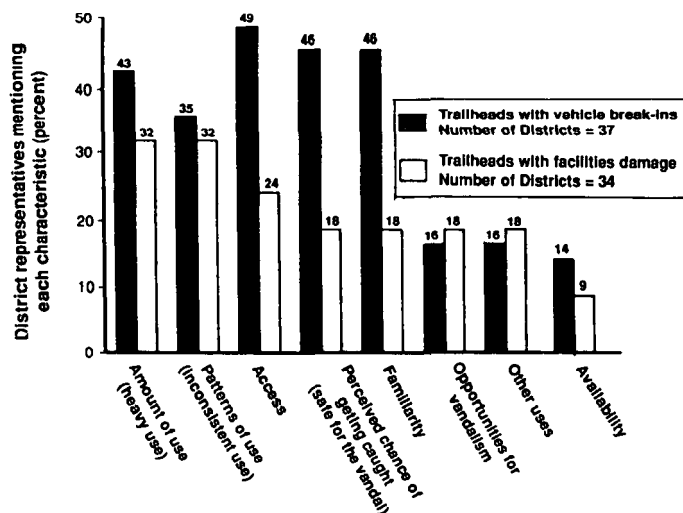


Figure 1—Characteristics of vandalized (railheads by type of damage).

Amount of Use. Managers seldom used any word or phrase other than "heavy use" to describe this concept. It should be interpreted not as an absolute amount, but as heavy in relation to the use experienced at other trailheads within the Ranger District. In contrast, "few people" (light use) was also mentioned by a few managers as a characteristic of vandalized trailheads. Further research needs to identify the contributing effects of amount of use to trailhead vandalism.

Patterns of Use. Inconsistent use was often reported as a characteristic of both trailheads with facility vandalism and those with vehicle break-ins. Included here are managers' comments relating to a mix of uses and users of a trailhead—such as "newly redesignated to wilderness," "a mix of users," "nontrailhead users present," "associated with camp and picnic grounds," "nonfamily users," "urban crowd"—and, when referring to trailheads with less vandalism, "specific user groups present" and "older users." What seems important here in characterizing vandalized trailheads is both a potentially conflicting mix of user types interacting at the trailhead and a large turnover in the clientele from year to year, perhaps associated with a lack of feeling of ownership by the users.

Access. Convenience and ease of access was the most often cited characteristic of trailheads with vehicle break-ins, but was only moderately important to facility vandalism. Included are comments such as "close to town," "near other trailheads," "easy access at night," and "accessible to the highway." In other words, getting to and from the trailhead easily by car appears important to those breaking and entering vehicles, but much less so to facility vandals.

Perceived Chance of Getting Caught. Attributes related to a lower perceived chance of getting caught were frequently mentioned as characteristic of trailheads with vehicle break-ins, but not of those with facility damage only. What appears relevant here is the perception of safety, that the vandal will not be disturbed or discovered at a trailhead. This characteristic combines attributes of the degree of perceived management control and the potential to be seen by other users. Included are comments such as "remote enough," "isolated," "not patrolled," "few people present," "little day-use traffic," and "end of the road." When referring to less vandalized trailheads, comments included "visible," "next to camps," and "approach noticeable."

Public Familiarity. How well known a trailhead is was frequently cited as a characteristic of (trailheads with vehicle break-ins, but not of those with facility damage only. This characteristic relates to popularity and knowledge of the trailhead. It includes such comments as "popular," "publicized," "advertised," "well-known," and "a formal trailhead." The flip side is that trailheads not well known appear less likely to suffer vehicle break-ins.

Opportunities for Vandalism. Opportunities or targets for vandalism were mentioned as characteristic of (trailheads with both vehicle break-ins and facility damage, but much less often than any of the preceding five characteristics. Comments referred to the **number, type, or location** of the targets for vandalism, including parked cars and facilities such as signs and bulletin boards. Examples are "more facilities present," "bulletin boards away from the parking lot" (contradictory to conventional wisdom that bulletin boards located away from the parking lot are less prone to vandalism!), "a large parking lot," and "many cars present." Trailheads with fewer opportunities for theft or destruction may invite less vandalism.

Other Uses. "Other uses" combines comments about the kinds of use at the trailhead that do not specifically address patterns or inconsistencies in use. Included are comments such as "cars parked 3 to 7 days," "highway rest stop," and "party spot." Relatively few Districts made comments assigned to this category, with little difference between those with vehicle vandalism and those with facility damage only. This characteristic may well have a conceptual overlap with the patterns-of-use category.

Availability. A small number of comments referred to when the trailhead can be used (such as "open early in the season" and "a trailhead in winter"), and to how well it calls attention to itself (such as "signed on the highway" and "noticeable"). This characteristic encompasses the idea of opportunity to vandalize and probably has some overlap with both access and familiarity. Little difference appeared in the number of mentions related to vehicle and facility vandalism.

Two characteristics indicative of both vandalism of facilities and vehicle break-ins are heavy use and inconsistent use (fig. 1). Low chance of being caught, good accessibility, and high public familiarity with trailheads are strong indicators for vehicle break-ins, but not for facilities damage. The other factors appear to be of relatively minor importance as indicators of either type of trailhead problem.

This set of characteristics represents only one of many possible interpretations of the data. The characteristics and assignment of attributes to those characteristics are based on our reading of distinctions inherent in the Ranger Districts' responses. Further distinctions within and between the eight characteristics may be important; new characteristics might also emerge if, for instance, responses for trailheads with facilities damage and those with vehicle break-ins were treated separately. Other characteristics might also be derived from various social and vandalism theories or empirical research; the Ranger District responses could then be reanalyzed according to such new sets of characteristics. The characteristics and their relations listed here can provide direction for further investigation of trailhead vandalism, however.

Table 3—Percentage of Ranger Districts informing users about trailhead safety by those receiving inquiries about parking safety

	Ranger Districts informing users	
	<i>Percent</i>	<i>Total N</i>
All Districts		
Receive inquiries	48.3	(29)
Do not receive inquiries	28.3	(53)
Districts with vehicle break-ins		
Receive inquiries	57.1	(21)
Do not receive inquiries	44.4	(18)

The nonsignificant chi-square statistics in table 3 indicate a lack of correlation between public perception of trailhead problems (as evidenced by public inquiries) and agency information campaigns. This lack of correlation may reflect misperceptions on the part of the public, lack of awareness of public concerns on the part of the agency, or both.

CONCLUSIONS

The results reported here are considered speculative and only identify managers' **perceptions** of problem types, tendencies, and possible trailhead characteristics related to vandalism. This information should be useful, nonetheless, in setting management priorities. Information about how users of the (railheads perceive the problems would perhaps be even more useful, but is yet to be collected.

The study highlights a key distinction between types of trailhead vandalism. The difference is, as one manager put it, between "vandalism for fun, and vandalism for profit." Ordinary vandalism might be malicious, inadvertent, even casual, but it does not have a direct economic motive. As shown earlier, much of the damage to personal property at trailheads appears to be directly related to theft of valuables from vehicles. Such "vandalism" may have quite different motives, perpetrators, patterns of occurrence, and potential means of prevention than "normal" vandalism to trailhead facilities.

The analysis of characteristics of vandalized trailheads supports this contention. Access, culprits' perception of safety, and public familiarity with the trailhead are important indicators of vehicle break-ins, but not of facilities damage.

If safety implies cover for perpetrators, such that they are not likely to be caught, we may speculate that the correspondence of this trailhead characteristic with vehicle break-ins indicates "clouters" (people who break into cars) are aware of a negative sanction against their actions; that is, the perpetrators acknowledge that their actions are "wrong" by the standards of those likely to be at the trailhead. The low correspondence of safety with facilities damage also suggests the opposite, that those who damage facilities do not see a high negative sanction against their actions; they are not as worried about being caught in the act by other trailhead users.

The correspondence of access and public familiarity with vehicle break-ins suggests that trailhead users (those going on rides or hikes) are not the people who break into

vehicles; otherwise we would expect high use to be the sole dominant indicator. Rather, it suggests that nonusers are preying where they can expect easy pickings. On the other hand, only heavy use and inconsistent use stand out as indicators of damage to facilities, suggesting that (railhead users may be the perpetrators of this type of vandalism.

The managers' perceptions of what makes vandalized (railheads different from less vandalized ones lends support to the following conclusions. Such information may prove useful as guides for resource managers in their attempts to control vandalism at (railheads; further research to refine and validate these conclusions is needed. Figure 2 illustrates the continuum of characteristics for vandal-free and vandal-prone (railheads.

- Lightly used (railheads receive less vandalism.
- Trailheads with one type of user and consistent use patterns receive less vandalism.
- Trailheads conveniently located and easily accessible invite more breaking and entering of vehicles; convenience makes little difference in terms of damage to facilities.
- Popular, well-known trailheads invite vehicle break-ins.
- Potential vandals to vehicles may perceive (railheads with maximum control by management as unattractive targets.
- Trailheads with more facilities and vehicles invite more vandalism to both.
- Trailheads with fewer nontrailhead activities tend to invite less vandalism.

These results have clear implications for attempts to use education and law enforcement to control vandalism. We are dealing with different sets of people, with different motives, when addressing facilities damage and vehicle damage. Different communication techniques and forums, and different enforcement techniques will be required.

The managers' survey shows that personal property damage is primarily a problem of forests and parks outside of Alaska. This lends support to the importance of public familiarity with the trailhead in attracting vehicle break-ins. As trailheads on wildlife refuges and on other public lands become more well known, an increase in vehicle break-ins may be expected. The importance of access as an indicator of vehicle break-ins suggests that this problem may be correlated with proximity to urban areas. This factor may help explain why Alaska recreation managers report much less vandalism or theft of personal property than their counterparts in the other three States.

To test these speculations, specific information on trailheads and their vandals is needed. To what extent are those breaking and entering vehicles members of organized crime rings? Do they come from local populations or distant urban areas?

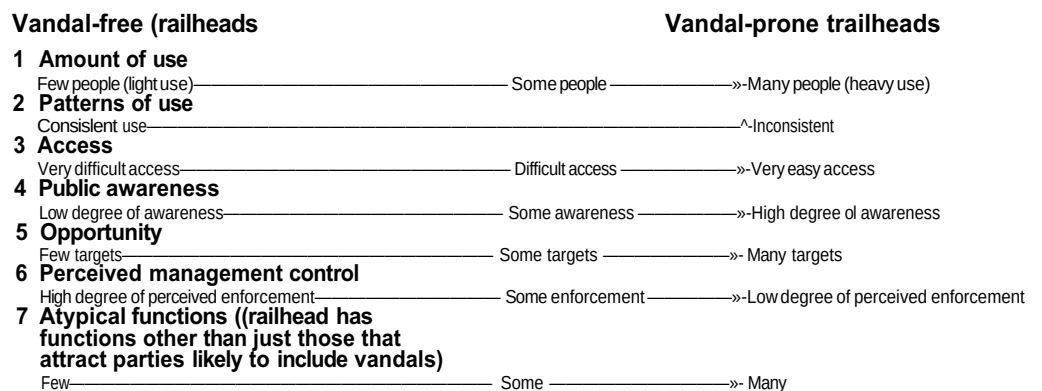


Figure 2—Characteristics indicative of vandal-free and vandal-prone (railheads).

Analysis of law enforcement agency data and its correlation with specific vandalism episodes may be one way of finding answers to these questions.

Further information on distinctions between vandalized and nonvandalized trailheads may also help clarify our picture of vandalism. For instance, what are the effects of law enforcement and surveillance? Is a National Forest with no guarded entrances more likely to be hit than a National Park with a system of entrance stations? Does the presence of volunteer guards at (railheads affect vandalism? What about volunteer rangers along the trails themselves? Are bulletin boards really necessary? We assume people need the information—do they really? What kinds of information do they need? Where should the information (kiosk or bulletin board) be located? Does it need to be at the trailhead, or can it be at a District office where it is controlled? Also, what differences arise from different user types? Are there distinctions between horse trip areas, for instance, and hiker areas? To what extent are users aware of possible break-ins to their vehicle? Do they expect it or not? Testing and further objective information are needed about the characteristics and principles described in this paper. Moreover, we need to understand the evolution of trailhead vandalism; understanding the evolution should contribute to mitigation before acts of vandalism occur.

Clearly, recreation managers perceive distinct differences between types of trailhead vandalism and between trailheads that are and are not vandalized. The analysis reported here is a first attempt to clarify what these differences are. Although further information will be required for complete understanding, the characteristics of trailhead vandalism and their interaction outlined in this paper should prove useful to

managers in developing control strategies and provide direction to researchers for further investigation of (railhead vandalism.

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The Effectiveness of Selected Trailside Sign Texts in Deterring Off-Trail Hiking at Paradise Meadow, Mount Rainier National Park

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Abstract

Although a single instance of off-trail hiking may be seen as minor rule-breaking activity, in the aggregate over an extended period, such behavior causes severe damage to fragile natural environments. Trailside signs at locations where off-trail hiking frequently occurs represent the final opportunity for managers to deter such activity. The sparse literature suggests that the use of such signs should reduce off-trail hiking rates and that alternative sign texts will have different effects. To test these and related hypotheses, an experiment was administered in a popular subalpine day-use area in Mount Rainier National Park. The behavior of more than 14,000 people was observed. The results of the research indicate that trailside signs reduce instances of off-trail hiking, and that effectiveness of sign texts differs significantly. Most effective was a sanction sign (OFF-TRAIL HIKERS MAY BE FINED), which reduced off-trail hiking by about 75 percent. The second most effective sign, an ethical appeal (STAY ON PAVED TRAILS and PRESERVE THE MEADOW), reduced off-trail hiking by 52 percent. The 52-percent reduction is statistically significant, but the rate of off-trail hiking is about twice as high as that experienced under the sanction sign. The effectiveness of other signs, including a nonverbal (symbolic) sign, is also discussed.

Key Words: Sign effectiveness, off-trail, hiking, minor rule violations.

Decades of human use of Paradise Meadows have resulted in a maze of informal (social) trails created by people who shortcut designated trails, walk to scenic vistas not accessible on the designated trails, and so forth. These trails frequently are barren of vegetation, undergoing erosion, visually undesirable, and inappropriate to the agency's mission of preserving a nearly natural ecological condition (by minimizing human impact). Recently, park managers have increased efforts to rehabilitate the area and concurrently have attempted to devise a visitor-management strategy to minimize damage caused by off-trail hiking. Trailside signs were considered to be an important component of the management strategy to deter off-trail hiking. Because the literature on the effectiveness of signs in deterring rule-breaking behavior at outdoor recreation sites is very limited, on-site data were required.

Literature

The literature on effectiveness of signs is sparse, and studies that are reported are characteristically analyses of empirical findings related to sign comprehension or message retention. Research designed to test hypotheses derived from deductive theory relating to behavior is uncommon.

Symbolic and Hybrid Signs

Many studies have been conducted on the effectiveness of symbolic (graphic only) and verbal (text only) signs in highway settings. Many of these studies use experimental designs in laboratory conditions where the subjects' rates of sign comprehension are the dependent variable. A study in Australia found that sign comprehension by subjects ranges from 74 percent to 93 percent for a variety of verbal and symbolic sign types (MacDonald and Hoffman 1982a, 1982b). Other studies comparing the effectiveness of prohibitory symbolic and verbal signs have found that comprehension rates range from 89.9 percent for verbal signs to as high as 99.5 percent for some symbolic signs (George 1970; King and Tierney 1970; MacDonald and Hoffman 1982a, 1982b; Walker and others 1965).

Threatened-Sanction Signs

Struckman-Johnson (1978) concluded that high-threat and moderate-threat signs are significantly more effective in controlling a criminal act, such as shoplifting, than low-threat signs or having no signs present. Caution, however, is warranted in comparing a criminal act, such as shoplifting, with minor rule-breaking behavior, such as off-trail hiking.

In a study of threatened sanctions and littering, Heberlein (1971) found that roadside littering behavior is unaffected by a prohibitory sign text or by sign frequency. The same study also found no correlation between recall or litter-control signs along highways and individual littering behavior on a city street. Neither comparison considered specific, observed on-site behavior in determining the effectiveness of a threatened-sanction sign.

Signs and Communications Strategies as Social Control: Techniques in Outdoor Recreation Settings

Lucas (1983) found registration rates in response to signs at voluntary trail registers to be highly variable (from 7 to 36 percent) according to type of visitor, season, and location. Leatherberry and Lime (1981) found higher compliance rates for (railhead registration stations in general. Compliance rate varies with mandatory (61 percent) and voluntary (70 percent) instructions. In an effort to improve compliance with voluntary registration rules at trail registration stations, Peterson (1985) improved sign design with the use of better graphics and a better explanatory text. The result was a significant improvement in compliance rates (up to 88 percent), believed to be

due to sign design and location. Location was found to be the most significant effect; putting signs along the trail is more effective than using (railhead locations. Similarly, the effectiveness of trailside signs has been noted in other studies and discussions (Fazio 1979, Lucas and Kovaliky 1981, Nelson 1979, Sharpe 1982, Tai 1981).

In a National Park, Schwartzkopf (1984) found that a sign noting the danger of contracting bubonic plague and other diseases is almost twice as effective in:

...deterring feeding of ground squirrels as the sign which emphasized that the squirrels' natural foods were better for them than human food. The latter sign, in turn, was found to be twice as effective in keeping visitors from feeding the squirrels as no signs at all.

Schwartzkopf thought that the sign emphasizing the plague is more effective because of the threats stated to individual welfare. He concluded that signs cannot eliminate all violations of park regulations by visitors but can have a significant effect on the behavior of park visitors. He also believed his evidence strongly shows that different texts can determine how effectively signs deter visitors from feeding wildlife in parks.

Ormrod and Trahan (1982) found that a negative sign text emphasizing probable crowding is not as effective as one that emphasizes the positive aspects of a more solitary experience in redistributing visitor use. Comparisons in Ormrod and Trahan (1982), however, are tentative because of small sample size and the statistical techniques used.

A preliminary study which used a quasi-experimental design, of the effectiveness of selected signs at Paradise Meadows in Mount Rainier National Park was conducted by Johnson and Swearingen (1986). This research was intended as a pilot effort to test experimental procedures and to ascertain whether sufficient variation occurred in the effectiveness of signs as a deterrent to rule-breaking in a National Park to warrant additional study. The data were collected at a meadow rehabilitation site and at a social trail that shortcut a designated, paved trail. The general findings were (1) a sanction sign (OFF-TRAIL HIKERS MAY BE FINED) and a symbolic sign (fig. 1) were the most effective in deterring off-trail hiking, (2) the standard Paradise Meadow sign (NO HIKING, MEADOW REPAIRS) was the least effective of the three signs studied, and (3) when sufficient noncompliance was present to measure the effects of signs, all signs reduced off-trail hiking compared to the control (that is, when no sign was present).

In a study inspired in part by Johnson and Swearingen (1986), Martin (1987) reports that a sanction sign is significantly more effective than three other signs and the control in deterring removal of pumice at Mount St. Helens National Monument. The sign text and the proportion of noncompliance were: (1) the control, 12.3 percent; (2) a standard sign (PLEASE DO NOT REMOVE ASH OR PUMICE), 3.3 percent; (3) a social-influence sign (PLEASE REPORT VIOLATORS WHO REMOVE ASH OR PUMICE), 3.9 percent; and (4) a sanction sign (VIOLATORS WHO REMOVE ASH OR PUMICE WILL BE PROSECUTED), 0.9 percent. Martin concludes that signs



Figure 1—Symbolic sign used in Johnson and Swearingen (1986).

significantly reduce collecting of pumice, and that the sanction sign has a significantly greater deterrent effect than do the standard and social-influence sign. The most effective behavioral control technique observed in the Martin study was thought to be the combined presence of a uniformed employee, a spoken message, and a prohibitory sign; but the sample size was insufficient to test the effectiveness of this combined strategy statistically compared with a sanction sign alone.

In summary, research indicates that signs reduce rule-breaking behavior in an outdoor-recreation setting but alone do not eliminate such activity. Location of signs relative to the occurrence of the rule-breaking behavior and different texts have an effect on deterrence rates. Highway-sign research indicates that symbolic and hybrid signs increase understanding and retention of messages. Limited recent studies suggest sanction signs may be the most effective in deterring minor rule violations in an outdoor recreation setting. One study (Martin 1987) found that the presence of a uniformed employee in conjunction with signs reduces noncompliance to less than that associated with signs only.

Research Design

The experimental procedure was the "post test only control group" design (Campbell and Stanley 1963), also referred to as an "after only" design (Sellitz and others 1976). The research design used six signs, one stake, a control (no sign), a nested experimental treatment that was situational (presence and absence of a uniformed person) at one site (Lower Meadow), and another nested treatment at the second site (Dead Horse) to determine whether novel signs deterred off-trail hiking.² (The term "treatment" refers to the independent variables, which are manipulated in



Figure 2—Symbolic sign used in the experiment.

9. Presence or absence of a uniformed employee in conjunction with other experimental conditions (a nested treatment).³
10. Repeated exposure to the experimental sign treatment (a nested treatment).

The signs were of a design currently used in the meadow (aluminum sign about 12 inches wide by 8 inches high, engraved with black or red letters). The signs were mounted about knee high on 3- by 3-inch brown steel posts, and were located just off the trail at the point of access to an impacted site (fig. 3). They were placed so that the subjects could not ascend the trail and deviate onto the social trail or impacted area without seeing the sign.

The choice of sign text and nested treatments to be used in the experiment was based on several considerations. The standard Meadow sign was selected because it has been the primary sign text used in the area. The symbolic and hybrid signs were included because of their effectiveness as reported in earlier research. The stake was chosen because it is easy to install, cheap, and unobtrusive. The symbol used on the stake, the symbolic sign, and the hybrid sign was chosen from the manual of suggested National Park Service signs approved by the U.S. Department of the Interior. The sanction sign was included because of its effectiveness in

³Table 1 excludes data collected during the administration of the nested treatment—'presence of a uniformed employee.' The results of this component of the experiment and the rationale for including it in the research are reported elsewhere (Swearingen and Johnson 1988).



Figure 3—Sign placement at Lower Meadows site.

Johnson and Swearingen (1986) and implications in the limited literature that these texts might establish the upper limits of effectiveness for signs in deterring minor rule-breaking behavior. The new Meadow text was suggested by the park staff; it includes an ethical appeal to explain the prohibitory message that is easier to understand than the old "Meadow repairs" text. The new Meadow text represents the conventional National Park Service approach to communication. The humorous sign is very similar to a sign used at the San Diego Zoo and reported to be effective in that setting.

The repeated exposure to experimental sign texts was included as a nested treatment to assist in the interpretation of the data. If it were found, for example, that all experimental treatments were more effective than the sign text currently in use in the Meadows, a rival explanation for this difference would be that the differences were due to novel exposure to sign texts rather than differences in the effectiveness of the signs themselves. The repeated exposure nested treatment results were seen as providing a basis to eliminate such a rival hypothesis.

Observation Sites

Site selection criteria for the experiment were guided by two general considerations: the desire to include different biological zones and the desire to include sites where different environmental conditions represented a stimulus for off-trail hiking. Accordingly, the Lower Meadow site was characterized by lush vegetation and was located very close to the developed area of the meadows. Visitors leaving the trail here were attempting to find a picnic spot, perhaps seeking shade, or just walking around in the meadow. At the Dead Horse site, the motivating factor for departing from the trail was assumed to be a social (informal) trail that cut across switchbacks along the

designated trail. This site was at a significantly higher elevation than the Lower Meadow site; hence, vegetation was considerably more sparse.

At the trailhead of the observation sites, a large sign explained the importance of hiking on established trails. From a mail survey conducted simultaneously with the field experiment, 73 percent of the Paradise day hikers were estimated to have read the trailhead sign.

Observation Procedures

For maximum interobserver reliability, project employee orientation included training sessions, procedural manuals, observation sheet pretests, and on-site discussion of observation procedures. Each employee was given a field manual covering all aspects of the project. When an observer was assigned to an unfamiliar site, an employee experienced at that site spent a day with the observer collecting data to thoroughly orient the newcomer.

One member of each research team observed visitor behavior in response to experimental conditions, from an inconspicuous vantage point near the site. A second observer contacted people for a related visitor survey (Johnson and Swearingen 1988). Subjects were not aware of being observed. The observer recorded data for all persons passing the site in one direction (facing the signs, traveling uphill). Recorded data included treatment, use, time of day, estimated age of visitors, gender of visitors, race or ethnicity, proximity and behavior of other close parties, tour or military group status, and behavior in response to the experimental treatment (compliance or noncompliance).

Variables

The dependent variable was measured as a dichotomy, off-trail hiking or not, at the observation sites. Off-trail hiking was defined as any departure from the established trail at the observation sites. The independent variables were the experimental signs and nested experimental treatments described above.

Hypotheses

From the literature and the preliminary study (Johnson and Swearingen 1986), the research hypotheses for the current study are as follows:

H1—All trailside signs and the stake will reduce the proportion of visitors hiking off-trail compared with the control.

H2—The threatened sanction sign will be the most effective off-trail-hiking deterrent among the sign treatments.

H3—The hybrid sign will be a more effective deterrent to off-trail hiking than the symbolic sign.

H4—The sanction, hybrid, and symbolic signs will be more effective deterrents than the standard National Park Service sign.

The deterrent effects of the new National Park Service sign and the stake were not predicted, except in comparison with the control. No prediction was made regarding the effect of exposure to novel signs.

Statistical Tests	All null hypotheses were tested by the chi-square test of independence. The conventional 0.05 level of significance was adopted. ⁴
Limitations of the Data	The test for the effect of exposure to a novel sign was conducted by comparing the frequency of off-trail hiking in the presence of a single sign with the frequency of off-trail hiking when two additional identical signs were placed at appropriate locations immediately before the Dead Horse observation site. This procedure may not adequately test this phenomenon because having three signs may be perceived as novel, which could have behavioral consequences. Two large parties (of 15 and 24 people) of non-English-speaking Japanese tourists, who departed from the trail in the presence of English signs, were eliminated from the data. This exclusion is believed advisable because such groups are not randomly distributed among the sign treatments, and their inclusion would distort the experimental results. These were the only such parties in the data.
Results	
Novelty Effect	No research hypothesis was advanced pertaining to the effect of single versus multiple exposures to signs. The null hypothesis of no difference in the frequency of off-trail hiking between the subsamples exposed to repeated signs was tested by performing a chi-square test of independence. The null hypothesis was accepted. The data were then reaggregated for performance of statistical tests of the hypothesis listed below.
Hypothesis 1	The first hypothesis stated that all signs and the stake would reduce the proportion of visitors departing from the established trail at the observation sites. These predictions were tested under the null hypotheses of no difference in the frequencies of off-trail hiking among the visitor subsamples exposed to each sign and the stake compared with the control. The null hypotheses were rejected for each experimental condition except the stake (table 1).
Hypothesis 2	Hypothesis 2 predicted that the sanction sign would have the most effect. Table 1 shows that the visitor subsample exposed to the sanction sign exhibited an off-trail hiking rate of 1.7 percent compared to the control subsample rate of 6.9 percent. The sanction sign subsample exhibited the lowest rate of off-trail hiking. Given these facts, hypothesis 2 was tested by performing a chi-square test of independence (table 2) with the threatened-sanction subsample and the new Meadows sign subsample (the second most effective sign) by the frequency of off-trail hiking. The null

4. This report uses the individual as the unit of analysis. Because off-trail hiking behavior can be influenced by group interaction, a criticism of the analysis might be that the units of analysis are not independent, and hence an assumption of the statistical test has been violated. If this criticism were accepted, the P values must be interpreted with caution. To test for alternative interpretations, the data have been analyzed using the group as the unit of analysis. In the opinion of the researchers, the group tests result in a similar interpretation of the data and are more congruent with the results presented in this paper.

Table 1—Chi-square tests of independence: selected trailside sign texts and control by frequency of off-trail hiking

	Percentage of off-trail hiking		Value of chi-square when cross tabulated within the control
	No	Yes	
TREATMENT	98.3	1.7	62.64 (P = 0.0000)
Sanction sign (N = 1990)			
New NPS sign (N=1651)	96.7	3.3	20.9 (P = 0.0000)
Humorous sign (N =1664)	96.6	3.4	19.73(P = 0.0000)
Hybrid sign (N=2173)	96.4	3.6	20.9 (P = 0.0000)
Symbolic sign (N = 2247)	95.9	4.1	14.4(P=0.0001)
Old NPS sign (N=1937)	95.1	4.9	6.34 (P =0.0118)
Stake (N =1463)	94.7	5.3	3.3 (P = 0.0684)
Control (no sign) (N = 1667)	93.1	6.9	

Table 2—Chi-square test of independence: threatened-sanction and new NPS sign text subsamples by frequency of off-trail hiking

Treatment (sign)	Percentage of off-trail hiking	
	No	Yes
New NPS (N = 157)	96.7	3.3
Threatened-sanction	98.3	1.7
Chi-square = 10.0 P = 0.0016		

hypothesis is rejected. Although the difference in the frequency of off-trail hiking is small (1.7 and 3.33), almost twice as much off-trail hiking occurred under the new National Park Service sign. Hypothesis 2 is supported.

Hypothesis 3

Hypothesis 3 predicted that the hybrid sign would be a more effective deterrent to off-trail hiking than the symbolic sign. The null hypothesis of no difference in the frequency of off-trail hiking rates between the hybrid and the symbolic signs was tested

Table 3—Chi-square test of independence: threatened-sanction, symbolic, hybrid, and old Meadows signs by frequency of off-trail hiking

Treatment (sign)	Percentage of off-trail hiking		Value of chi-square when cross-tabulated with old Meadows sign (N = 1937)
	No	Yes	
Threatened-sanction (N =1990)	98.3	1.7	31.20(P = 0.0000)
Hybrid (N=21737)	96.4	3.6	3.85 (P = 0.0498)
Symbolic (N = 2247)	93.9	4.1	1.28 (P = 0.2750)

by a chi-square test of independence. The chi-square value was 0.671 (P = 0.4270). The null hypothesis was accepted.

Hypothesis 4

Hypothesis 4 predicted that the sanction, symbolic, and hybrid signs would more effectively deter off-trail hiking than the old Meadows sign. Three chi-square tests of independence were performed under the null hypotheses of no differences in the frequency of off-trail hiking between the subsamples exposed to each of the threatened-sanction, symbolic, and hybrid signs and the old Meadows sign. The null hypotheses were rejected for the sanction and hybrid sign; the null hypothesis was accepted for the symbolic sign (table 3).

Discussion

The results of this research demonstrated that trailside signs deterred off-trail hiking at or near sites where such activity is likely. The findings offer strong support for the hypothesis that trailside sign texts differ in their effectiveness. On the basis of the signs tested and the limited literature, it can be argued that sanction signs establish the upper limits of trailside sign effectiveness. Sanction signs reduced off-trail intrusions onto the meadow to 1.7 percent of those who passed the observation sites. The next most effective sign, which used an ethical appeal (STAY ON THE TRAIL AND HELP PRESERVE THE MEADOW) had a 3.3 percent off-trail hiking rate. Almost twice as much off-trail hiking occurred in the presence of the ethical appeal sign compared with the sanction sign. Compared with the control, the threatened-sanction sign reduced 75 percent of the off-trail hiking; the ethical-appeal sign, 52 percent.

No statistically significant differences were found in the effectiveness of the ethical-appeal sign, the humorous sign, the hybrid sign, and the symbolic sign. Nor were statistical differences found in the effectiveness of the old Meadows, the stake, and the symbolic signs. Thus, the hybrid, ethical-appeal, and humorous signs appear to represent a second level of sign effectiveness, and the old Meadows sign and the stake represent a third. The symbolic sign is marginally between the two. If the null hypothesis is accepted at the 0.06 level of significance, the stake had no deterrent effect.

The lack of effectiveness of the stake with the prohibitory symbol is difficult to explain. Visitors may have formed impressions of a generally indifferent agency

posture toward off-trail hiking because of the widespread visible damage caused by off-trail hiking. Given the visible damage, the lack of signs at some damaged locations, and the presence of the old Meadows sign at many locations where visible damage was present, visitors predisposed to off-trail hiking may have responded directly to the clarity and seriousness implied in the sign communication. Given that the standard-size symbolic sign tested in the experiment was of marginal effectiveness, the same symbol placed on a smaller, less conspicuous stake would logically be even less effective.

The design of the experiment did not allow conclusions to be reached about the causes of the lack of effectiveness of the stake. A stake with an alternate text could, therefore, have a significantly different effect.

Although the old Meadows sign (NO HIKING, MEADOW REPAIRS) and the symbolic sign significantly reduced off-trail hiking, they were less effective than the other signs tested. The relative ineffectiveness of the old Meadows sign was predicted on the basis of Johnson and Swearingen (1986). The marginal effectiveness of the symbolic sign compared with the old Meadows sign was unexpected. A similar (but not identical) sign in Johnson and Swearingen (1986) was associated with very low rates of off-trail hiking, and the highway-sign literature suggests effectiveness.

The symbolic-sign literature, however, reports tests dealing with comprehension and retention—not behavior. In addition, Johnson and Swearingen used a symbolic sign that was larger, of a different color (more conspicuous), and installed higher than either the symbolic or the hybrid signs used in this study. Therefore, sign design or placement could have accounted for the earlier observed effectiveness of the symbolic sign. Also, the preliminary symbolic-sign findings could be due to sampling error (the sample was much smaller than that of this study).

Conclusions and Suggestions for Further Research

The results of this study indicated that prohibitory signs located at or near sites of minor rule-breaking activity in an outdoor recreation environment significantly reduced such activity. The research also showed statistically significant differences in the effectiveness of different sign texts. Finally, this research and very limited other work suggest that sanction signs establish the upper limits of sign deterrence for minor rule-breaking activity in an outdoor recreation environment. Even signs threatening fines, however, do not completely eliminate minor rule-breaking behavior.

The practical relevance of differences in the effectiveness of signs can be illustrated by assuming a site passed by 300,000 visitors annually. The most effective sign text tested in our research (sanction) would be estimated to result in 5,100 people annually departing from the trail. The second most effective sign would result in 9,900 people departing from the trail, and the least effective sign would result in 14,700 people departing from the trail. The absence of trailside signs would result in 20,700 off-trail hikers annually. In a 5-year period, the difference in the trampling estimated to occur when the most effective sign was displayed compared with the least effective sign is the effect of 48,000 off-trail hikers. The difference between the most effective and the second most effective sign is estimated to be the trampling by 24,000 people.

Sanction signs, however, should not be used uncritically. Alternate sign texts have significantly different potential as deterrents, and these differences should be understood and considered in conjunction with the acceptability of the consequences of various rates of rule-violating behavior. We believe that the need for application of such knowledge to facility design and visitor-management strategies will become more critical as environmentally sensitive areas are visited by increasing numbers of heterogeneous people in the decades ahead.

Additional research on this subject is needed. First, we recommend theoretically relevant variables be included in experimental designs so that explanations for differences in effectiveness of signs can be deduced from theory. Falsification of null hypotheses would thus be directly relevant to theory construction. The development of theory would enhance the potential for generalizing research results. Our work includes such attempts. These data are now being analyzed and will be reported shortly.

Second, research should be designed to test the differential effectiveness of signs in deterring minor rule-breaking activity among various subpopulations (for example, ethnic and age groups).

Third, additional work is needed to determine the effect of sign type other than text (that is, size, shape, color, and so forth) and how these variables might interact with sign texts in deterring undesirable behavior.

Fourth, research is needed in different physical and social environments and with different types of rule-breaking behavior as the dependent variable. The applicability of knowledge pertaining to minor rule-breaking deterrence extends far beyond park settings.

Fifth, the combined effect of trailside signs (or in a broader context, signs at the site of expected rule violations) with other social control techniques should be researched. We have included such an element, the presence of a uniformed employee, in work reported elsewhere (Swearingen and Johnson 1988).

Sixth, the effectiveness of signs or any communication strategy intended as a social control technique should be studied with enforcement activity as a mediating variable. We strongly question whether any sign or communication strategy designed to curtail minor rule violations can be efficient among large, diverse populations if rules are not enforced.

Seventh, the unintended consequences of certain sign communication strategies should be researched. For example, sanction signs may function effectively as behavioral deterrents but may have unintended and adverse impacts on some visitors' leisure experiences. Conversely, the reduction of impacts on resources that might result from sanction signs and more active enforcement might significantly enhance the esthetic attribute of the resource and improve the leisure experience for many.

Eighth, experiments such as the present one should be combined with biological research so that thresholds of unacceptable resource damage can be quantitatively linked to rule-breaking activity.

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The Effect of Three Signs and a Brochure on Visitors' Removal of Pumice at Mount St. Helens

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Abstract

An experiment to determine the effectiveness of three signs and an interpretive brochure in controlling removal of pumice by visitors was carried out on a heavily visited trail at the Mount St. Helens National Volcanic Monument. Results indicated that one sign was very effective; the other two signs and a brochure were moderately effective.

Keywords: Signs, brochures, Mount St. Helens, visitor control, national monument, vandalism, erosive vandalism.

Introduction

The Mount St. Helens National Volcanic Monument was established by the U.S. Congress in 1982 to preserve the area's geologic and ecologic values for scientific study and recreational appreciation. Managers of the Monument are faced with the task of providing safe and convenient visitor access to viewpoints within the volcanic area while maintaining a natural, preserved state for research and continual viewing by visitors. One of the specific management problems associated with the new National Monument is the removal of geologic artifacts by visitors. People who collect pumice because they want a souvenir or want to share their experience with others are damaging the Monument.

Collecting pumice stones in a National Monument may be classified as "erosive vandalism." According to Madison (1970), erosive vandalism is a minor violation that by itself does minimal damage. Minor violations are often the most difficult to control because the violators do not consider themselves rule breakers or they consider the consequences of their actions minor. Minor violations can be motivated by a person's desire to collect mementos, or to show others a piece of the volcano. Violators often do not know correct behavior in a protected National Monument and do not regard their actions as harmful. The rule violator may also feel justified in breaking a seemingly unimportant rule, not realizing that the cumulative effect of pumice removal by many people will seriously affect the resource.

Effective control of visitors is essential if the impact of recreational users who collect specimens is to be minimized. But short of limiting access to areas, how is control and education of visitors best obtained? Without Monument personnel in all of the recreational areas, how can a manager prevent visitors from removing geologic material?

Historically, signs have communicated the rules of an agency or landowner. Questions about the effectiveness of signs and a brochure are examined by this study. Who are the pumice collectors? Would a sign requesting visitors not to collect pumice make a difference? Does the type of message on the sign affect whether a visitor removes pumice? Would a brochure be just as effective?

Research to answer these questions was carried out in the summers of 1985 and 1986 at the Mount St. Helens National Volcanic Monument. The need for an effective and cost-efficient control for minor vandalism was apparent.

Sign Research

Studies on the use of signs in recreation areas are uncommon. Signs are assumed to be effective conveyors of information about the area or provide guidelines for visitor use with rules and directions. One study (Ormrod and Trahan 1982) was undertaken to answer the question, "Can signs help visitors control their own behavior?" Their study indicated that positively phrased trail entry signs are more effective than negatively phrased messages aimed at redirecting hikers off crowded trails.

The kind of message conveyed in a sign can affect the desired results also. Schwarzkopf (1984) discovered that a sign noting the danger of contracting bubonic plague and other diseases was almost twice as effective in preventing park visitors from feeding ground squirrels as other signs that indicated natural food for squirrels.

was better than human food. Schwarzkopf believes the sign with a message of disease was most effective because of the threat to individual welfare.

Conflicting evidence based on location and application has been found in studies on threatening sanctions signs. Williams (1968) and Blake and Davis (1964) generally agree that negative sanctions will cause people to avoid behavior indicated, but Heberlein (1971) found that littering along the roadside was unaffected either by sign frequency or by threatening signs. Heberlein's research emphasizes the importance of site, however—in this case, a highway.

An unpublished report (Johnson and Swearingen 1986) of a preliminary study done on signing at Mount Rainier National Park suggested that symbolic (circle with cross-hatch) and negative-sanction signs were significantly more effective in reducing off-trail walking than a standard park sign that said "Please stay on trail—meadow repairs." Such results indicate that type of sign may indeed make a difference.

Another study confirmed the effectiveness of a higher threat sign coupled with assurance that the rules would be enforced. Chambliss (1966) found that the propensity to violate parking rules on a campus by faculty declined when the signs included sanctions.

Very little research has been done to examine what behavioral impact signs can have. This research contributes to that limited knowledge base.

Description of Study Area

Mount St. Helens National Volcanic Monument in southwest Washington is a 45-thousand-hectare preserve (about 172 square miles) managed by the United States Department of Agriculture, Forest Service. It is reached from the major metropolitan areas of Seattle on the north and Portland, Oregon, on the south, by a 4-hour drive over Interstate Highway 5 and State and Forest Service roads.

Windy Ridge Overlook, which currently provides the best view into the crater, is a primary destination for most visitors to the Monument. Visitors most commonly travel by car through the blast zone of downed trees, heavy ash, and pumice on the way to Windy Ridge. The first parking area within this blast area is the Meta Lake trail head and a viewpoint of a miner's wrecked car. From the parking area, visitors walk through the blast area along a one-eighth mile, paved trail to Meta Lake. The experimental study using signs and a brochure was done on the first third of this trail.

Meta Lake is an alpine lake; its fish and small surrounding vegetation survived the intense blast of Mount St. Helens because of a protective layer of snow. This 2-hectare lake, encircled by a 25- to 30-cm layer of ash and pumice and by downed trees, makes a curious view from the trail. Counts indicated that 75 to 300 people per day used the Meta Lake trail during the summer. For many visitors to Mount St. Helens, a walk along this trail is their first experience with the new environment of young trees, fallen older trees, and a crusted ash and pumice surface, so the location was ideal for studying visitors who might collect pumice along the trail.

Methods

Preliminary tests during the summer of 1985 established that a large amount of pumice was being removed by visitors. After 15 days of watching recreational users

on trails, roadsides, and during naturalist talks, I noted a diverse cross-section of visitors collecting volcanic "souvenirs" from the Monument. Typical incidents included young boys running to points near interpretive parking areas to collect pumice stones, a family filling plastic litter bags with ash and pumice from areas near the road, and a young mother loading wood sections of a downed blast-zone tree into her car. Staff from the Volcanic Monument confirmed similar instances from their observations. Pebble-size and larger pumice particles had been taken at heavily frequented areas.

Over a four-day period, I conducted a pilot study near trail entries and at interpretive signs to test practical methods for counting and replacing pumice stones that were placed along these points and were then removed by visitors. A high removal rate was indicated by the preliminary study. At the most heavily visited site, about 10 pumice stones per hour were removed during the peak visitation period from 11:00 a.m. to 4:00 p.m.

After the pilot study, a single site was chosen along the first third of the Meta Lake trail for observing visitors during the summer of 1986. Pumice stones were placed at 25 fixed locations along the trail where the stones could be easily counted and replaced as needed. The pumice stones had been gathered near a road cut outside the Monument. Each stone was marked with a 1-millimeter black enamel paint fleck to determine if stones were picked up and put back along the trail, so they would not be counted as removed from the site. The stones averaged 3.5 centimeters (1.4 inches) in diameter, typical of the size of pumice stones along the trail after the May 18, 1980, eruption. During the study, 21 people moved stones but did not take them.

A busy parking area allowed a van to be parked so visitors could be observed inconspicuously. I often walked a short distance up the trail to check and replace pumice stones or to make additional observations of visitors along the trail.

Research Design

Visitors were observed for four days to establish a baseline for pumice collection and feasibility of methods. From 25 days total, five nonconsecutive days were randomly selected for each of the four experimental treatments and the control days. Two sampling sets were used to ensure that sampled days for each treatment would occur on both weekend and week days. Visitors were watched between 10:30 a.m. and 4:30 p.m. each of those days. For a detailed description of the research methods, see Martin (1987)

The dependent variable was the number of visitors removing marked pumice stones each hour during the observation period. Independent variables included the experimental treatments (signs and brochure), estimated age of visitors, sex of visitors, and size and social composition of the party. Three signs were used, interchangeable on a mounted post next to the trail edge at the entry. The 10- by 16-inch front of each sign had routed white letters on a brown background that made the sign look official. The first sign read, "PLEASE DO NOT REMOVE ASH OR PUMICE"; the second was a "sanctions" sign, "VIOLATORS WHO REMOVE ASH OR PUMICE WILL BE SUBJECT TO PROSECUTION"; and the third was a "social influence" sign, "PLEASE REPORT VIOLATORS WHO REMOVE ASH OR PUMICE." Each sign was in place on five randomly selected days.

Table 1—Distribution of observed visitors not in an organized group, by experimental treatment

Visitor classification	Visitors		Parties	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
Visitors by treatment:				
Standard sign	568	20	187	18
Sanctions sign	639	23	238	23
Social influence sign	505	18	204	20
Brochure	532	19	213	20
Control;	567	20	197	19
Total	2811	100	1038	100

The brochure was a 4- by 8-1/2-inch card with text and several illustrations of a fir bough and an animal. The text asked visitors to look for certain features and not to remove ash or pumice because the area is a natural museum. A copy of the brochure text appears at the end of this text. The brochure was available on the same post as the signs, with a notice that read "META LAKE TRAIL BROCHURE-TAKE ONE."

Results

Over the six-week period of the study, 4,688 visitors were observed along the trail. Of these, 2,811 visitors in 1,038 parties were not part of an organized group such as a naturalist walk or bus tour. These 2,811 visitors are the total for the data presented here. A fairly even distribution of visitors was observed under each treatment and the control. Table 1 shows the distribution of visitors in each treatment category. Observation of visitors on the trail, with no sign or brochure present, indicated that 70 of 567 visitors (an average of 12.3 percent) collected at least one marked pumice stone. No other antipumice-collection sign was present that summer at the Monument. Nor was there a message in interpretive literature given to visitors informing them not to collect pumice or ash. Thus, without any message, almost 88 percent of the visitors did not remove pumice along the Meta Lake trail.

A sign or brochure present along the trail did make a difference. The amount of pumice collected was reduced by at least two-thirds when a sign or brochure was present. Figure 1 summarizes the differences in pumice collection rates between the various treatments. Some type of message always made a difference. The rate of pumice gathering was reduced from 12.3 percent, with no control, to at least four percent. Statistically, by analysis of variance methods described by Zar (1984), the difference (at the 0.001 level) between all treatments and no treatment was significant. These were all post hoc comparisons.

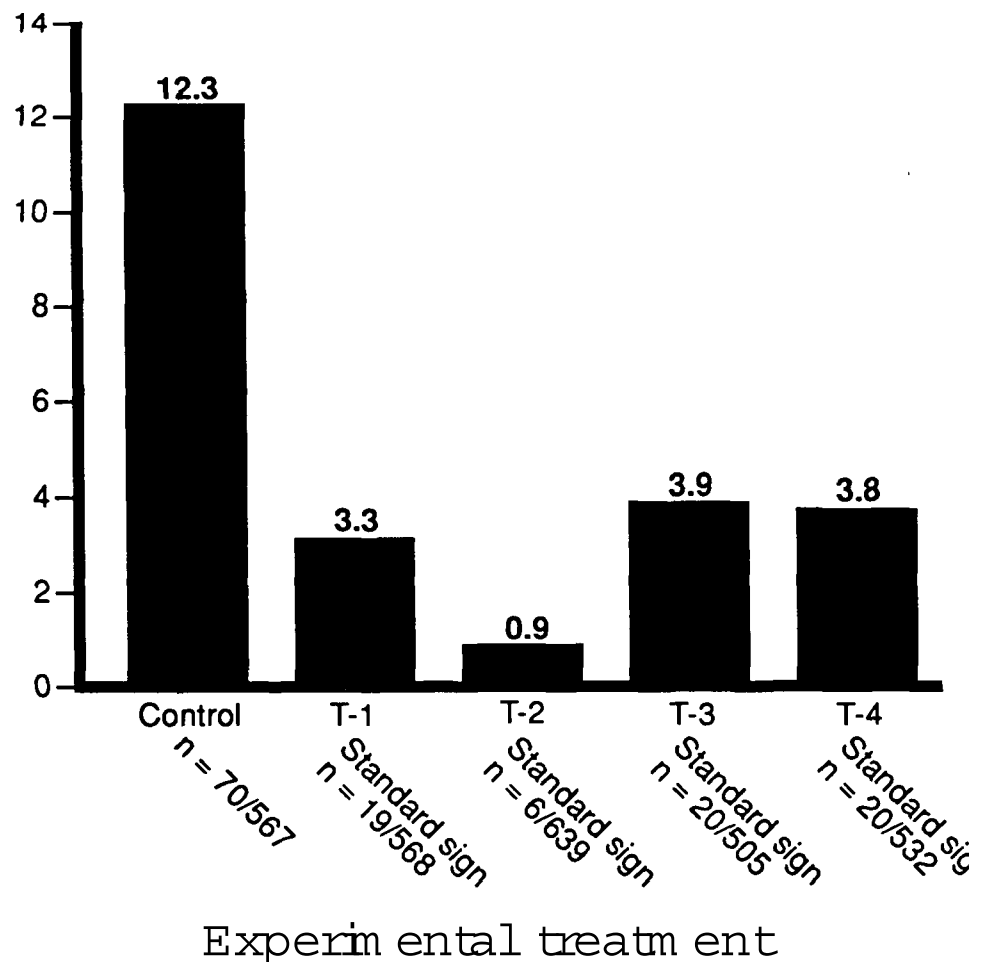
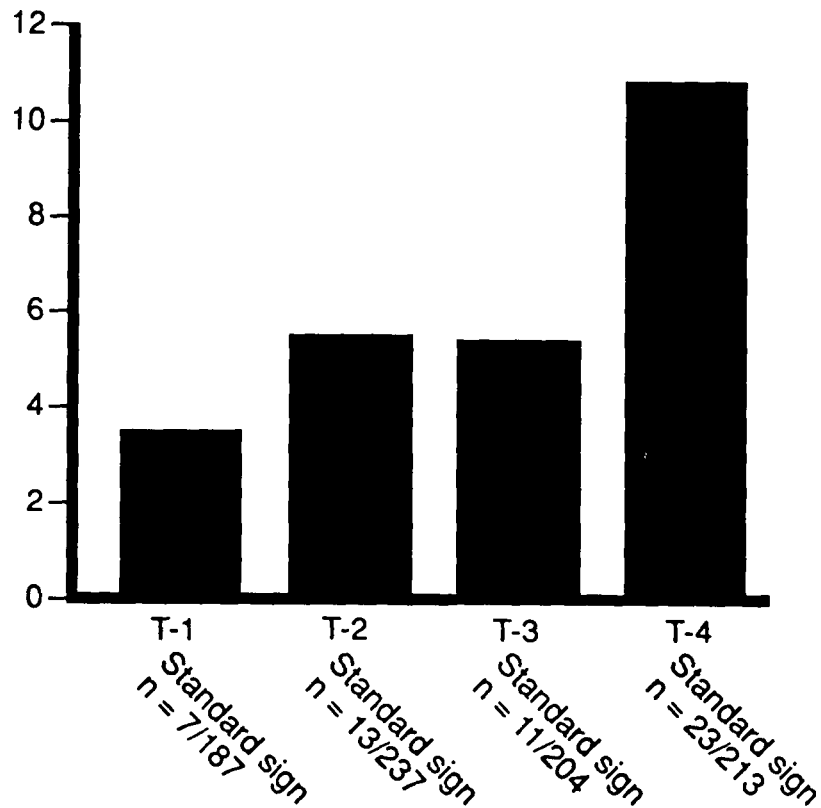


Figure 1—Percentage of visitors removing pumice stones, by experimental treatment and control.

This demonstrates that just having the appropriate information available in the form of a sign or brochure can affect the behavior of visitors.

Figure 1 shows the most effective type of message. When the sanctions sign was displayed, less than one percent of the visitors (6 of 639) removed pumice. Compared with the other signs, the sanctions sign reduced the pumice-collection rate 97 percent. Its effect was significantly different (at the 0.05 level) from that of all the other treatments. Each of the other treatments was not significantly different from the others. Surprisingly, the brochure was just as effective as the standard and the social influence signs. Signs are read by more visitors than the brochure, however; if that is taken into account, the brochure may be more effective than the standard and social influence signs per person who actually read the message,

The instances when the signs or brochure were ineffective could be explained by the entering parties' not having at least one member read the sign (indicated by a turned head and a slight pause) or pick up a brochure; 54 (6 percent) of 841 parties did not



Experimental treatment

Figure 2—Percentage of parties by experimental treatment who did not read the signs or take a brochure.

have at least one person read the sign or pick up a brochure. Conversely, 94 percent of the trail users were reached by the message. Figure 2 shows the distribution of visitors who did not read the sign or take a brochure. The number of people not taking a brochure is about twice that of the sign readers, possibly because they would have to pick up the brochure and read it. Yet the brochure was just as effective as two of the signs in preventing removal of pumice.

Pumice Collectors

Who were the pumice collectors? The number of pumice collectors was 72, which accounts for more than 50 percent of the pumice stones removed (135 stones were collected and some people removed more than one marked stone). Figure 3 shows the number of collectors in each age and sex category.

The first and second most frequent collectors were male youths and older females, respectively. Young males (about 5 to 12 years old) represented 38 percent of the observed pumice gatherers and females over 50, 26 percent. These two groups together represented almost two-thirds of the pumice removers. Least represented were teenagers and young to middle-aged females.

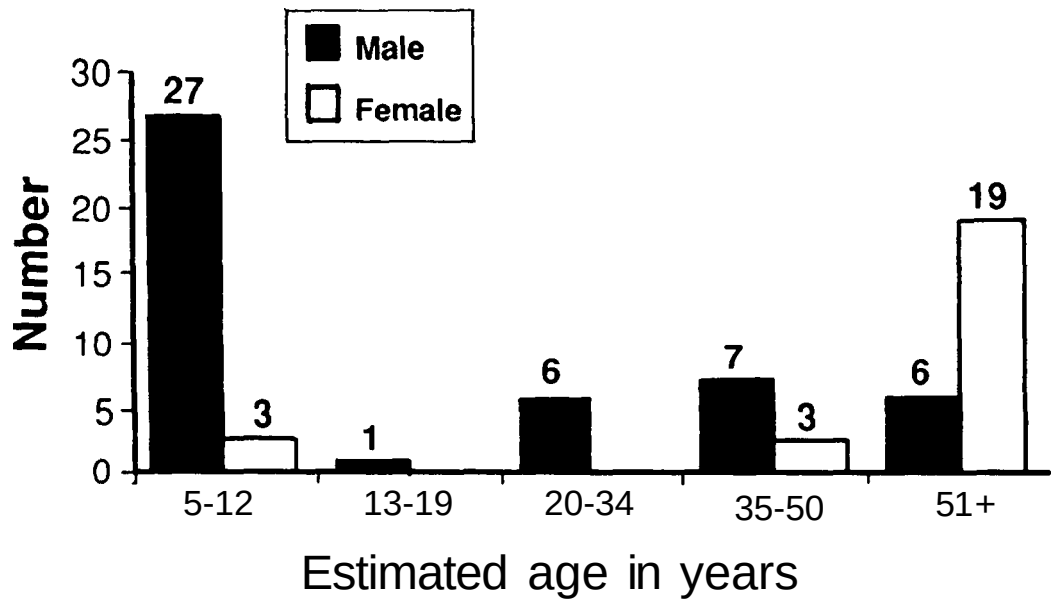


Figure 3—Distribution of people taking pumice stones by sex and estimated age.

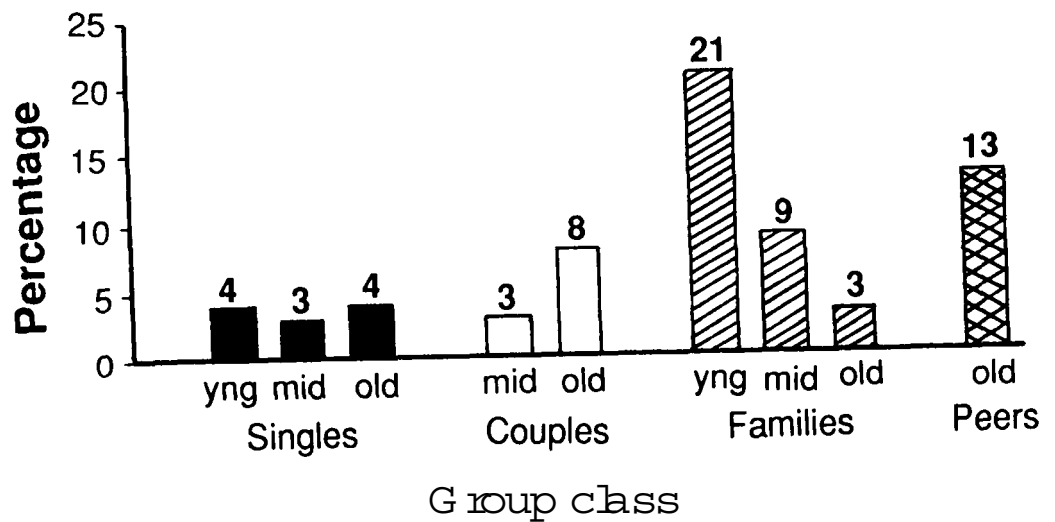


Figure 4—Pumice takers as a percentage of group class.

When pumice takers are classed by group and age classes, the results (fig. 4) indicate that young families and older peer groups are the primary collectors. The dividing lines between young, middle age, and old are arbitrarily established at the estimated ages of 30 and 50 years. The collectors from young families plus those from middle-aged families represent about 60 percent of the total observed collectors. Yet the two family groups represented only 30 percent of the total parties observed. Clearly, pumice collection by families (defined as having children in the party) was proportionately higher than for any other social group.

Conclusions

Effective Communication

The use of control methods discussed here may have implications for use against violations of minor rules elsewhere, but with careful assessment. The most effective technique tested here was the sanctions sign. Wide application of this sign should be considered carefully, however, because negative reactions by visitors against the agency or landowner might be exhibited. A sanctions message may be appropriate for serious rule violations or life-threatening situations, but its use should be carefully assessed. Visitor enjoyment should be a primary consideration.

The interpretive message in a brochure was found to be just as effective as a standard informational sign or a social influence sign. The combination could be very useful because the sign would make up deficiencies of the brochure (that is, people not taking or reading a brochure would still see an informational trail sign). A brochure also has the advantages of presenting the agency in a positive image, and enhancing the experience of the visitor who will know what to look for along the path. A brochure also may reach others who read the leaflet but are not at the described area. The benign or light-handed message of a brochure with a protection theme can produce effective results.

Implications for Managers

Most visitors conformed to the rules, even when a sign or brochure was not present. Those who collected pumice were a minority, yet a standard sign reduced this number by two-thirds. A control method for minor rule violations should be chosen with consideration for what most of the visitors are doing. Although a sanctions sign appears very effective, the manager should weigh the enforcement image created by the sign against the effectiveness of preventing site deterioration.

Target audiences that managers may consider in this setting include young families and older females. Visitor center displays and illustrated posters or signs might show examples of such individuals who would be identified by their peers. Visitor information brochures and signs could be planned with these audiences in mind.

Most visitors on the Meta Lake trail were rule conformists. Even a general information sign reduced rule violations significantly to justify the axiom that a little rule information can go a long way.

An interpretive brochure has the advantage of providing information about the area (a desirable objective of the visitor) and provide a means of management control. The combination proved to be effective here.

Creative alternatives to the methods studied in this experiment may have potential for visitor control. They include pumice gathering sites just outside the Monument. Pumice "picking piles" could be replenished from pumice-rich nonprotected lands. Another alternative to informational signing and warnings would be the development of a mythology about removing pumice. Indian legends concerning the Cascade peaks abound. Managers at Hawaii Volcanos National Park have been quite successful in demonstrating the powers of Madame Pele in ruining the good fortune of visitors who remove volcanic material from the Park (Stapleton 1977).

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SECTION II

POLICY AND PREVENTION OF VANDALISM BY URBAN MANAGERS

Metro Awareness Program: Education, Enforcement, and Elimination

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Abstract

The Metro Awareness Program (MAP) is a comprehensive antivandalism package created to reduce or eliminate graffiti and vandalism to the Washington Metropolitan Area Transit Authority. This paper presents an overview of three years of program development and implementation in a 1600-square-mile, multijurisdictional setting. All component development stemmed from the importance of establishing a proprietary interest in all public property, specifically transit property. The level of first learning needs to be that riders and potential riders own the system with their taxes and fares. Included in the overview will be discussions of the three main program elements: education, enforcement, and elimination. The educational component required establishment and acceptance of a prekindergarten through 12th grade curriculum and presentation of this curriculum to over 25,000 public and private school children in the District of Columbia, Maryland, and Virginia. Because vandalism can begin as an attempt to gain recognition, alternate forms of recognition were established, including an annual poster contest held in all public and private schools throughout the District of Columbia, Maryland, and Virginia and expanded involvement with the Summer Youth Employment Program. Other educational programs, including employee campaigns and community involvement, will be reviewed. Highlights of the enforcement element will include details on the establishment of a Juvenile Diversion Program. The elimination component consists of the commitment to remove all graffiti and vandalism as soon as it is detected; i.e., graffiti breed graffiti. Provided in this section will be a statistical review of costs associated with vandalism removal. A brief review covering the aspects of funding such a program and the involvement of corporate sponsors will be outlined. Closing the presentation will be a demonstration of "The Money Game: Who Foots the Bill?"

Keywords: Vandalism, proprietary interest, elimination, education, community involvement, collateral materials, enforcement

Background

In March 1985, I was approached by the Washington Metropolitan Area Transit Authority (Metro) to design an antivandalism package and campaign for their bus, rail, and transit facilities. I was provided with the findings of an internal task force comprised of representatives from the departments of Rail, Bus, Transit Police, Facilities, Maintenance, Marketing, and Public Affairs. The task force was organized by Metro to address a dramatic rise in vandalism and graffiti to their system. Using their findings as a basis for my research, I created a questionnaire and conducted telephone interviews with transit authorities nationwide. Questions included:

- Does your system currently have a graffiti and vandalism problem?
- What would you estimate the annual cost and extent of damage to be?
- Does your system currently have an antivandalism program?
- Do you have a school program?
- Do you have a police force?
- What is your authority's position on removal?
- Do you maintain a high or low profile in the media regarding vandalism?

After interviewing ten systems, I concluded that those transit systems practicing an aggressive educational campaign were curbing and preventing vandalism to their properties. Also evident was the need for potential vandals to know that they could be arrested and fined for committing these acts. Transit systems that had made the commitment to remove graffiti or repair vandalized property as soon as detected also witnessed a decrease in level of occurrence.

Recommendations were made to the Board of Directors, the General Manager, and the Officers of the Authority to develop and implement a comprehensive pilot project concentrating on three basic elements: education, enforcement, and elimination. Preliminary results were quite encouraging, with dramatic reductions in the number of incidents and the costs associated with destruction of property. Three years of program development and implementation in a 1600-square-mile multijurisdictional setting have led to fine tuning of each component.

Education

It is necessary to establish a proprietary interest in the property you are trying to protect. One of the main thrusts of the program is to educate school children, community groups, and the riding public about the issue of vandalism and their ownership of transit property. The educational curriculum developed for all grade levels provides students with an understanding about how fares and taxes are used to run the bus and rail system. Students are shown that the transit system is theirs; they own it. Potential vandals are encouraged to think twice about defacing "their" equipment. Emphasis for the school program initially was placed on those bus routes, subway lines, or facilities area incurring the most damage. The Metro Awareness Program (MAP) has two educational levels.

Mr. McGruff Safety Program Students age five through nine see a ten-minute slide show featuring the National Crime Prevention Council's Mr. McGruff. Included in the presentation are safety measures that need to be followed when students ride Metro or other forms of transportation and the message that a clean system depends on them. Students learn that they are part owners of the system when they pay their fares; just like Mr. McGruff, whom they see paying his fare. After the slide show is completed, the students are visited by a surprise guest personality, "Mr. McGruff, the Crime Dog." (Mr. McGruff is played by one of our transit police.) Mr. McGruff reviews the program's message and then takes his place by the exit to shake hands with the students as they leave the class. Each student receives a "Think Metro—Think Safety" button or "Help Keep Metro Clean" pencil to serve as a reminder of the visit.

Metro Awareness Program Students in fourth grade through senior high see a 20-minute slide presentation providing them with an overview of the region's transit system, an explanation of who owns it, how much the equipment costs, and the safety measures to be followed when using the system. Students are shocked to find out that one bus can cost \$147,000 and are even more surprised when that figure is compared to receiving \$5.00 a day, every day of their lives, until they reach the age of 82. Following the slide show, the Money Game is played, which provides the students with a better understanding and respect for public property.

To date, I have taught this curriculum to over 30,000 children in public and private schools in the District of Columbia, Maryland, and Virginia. Our transit property in the areas surrounding those schools that have been visited by the MAP is no longer being damaged, and litter has also been reduced in the immediate school vicinity.

Recognition Alternatives Most experts agree that vandalism is an attempt for recognition. Alternative methods of recognition need to be developed to substitute for defacing public property. To encourage a creative outlet for the graffiti craving, an annual student poster contest was inaugurated at Metro. It brought the antivandalism message to every school in the region. "Help Keep Metro Clean" was the theme for the first student poster contest, with the second and third year's themes reflecting "Think Metro—Think Safety." More than \$2,500 in scholarships and prizes were donated, and a local department store provided all camera-ready artwork for the contest materials. Each participant received a "Help Keep Metro Clean" bookmark or "Help Keep Metro Safe" ruler that included a list of positive steps to take to keep Metrobus and Metrorail clean and safe.

Another student-education program organized as part of MAP was an expansion of the Summer Youth Employment Program. This included an orientation session, on-site visits, and a final reception for the youngsters that worked for Metro for the summer. For many of the students, this was their first work experience. They are expected to return to their schools knowing about the transit authority from first-hand experience and understanding what it takes to keep the system clean. Many of the youngsters cleaned the buses and cars and are expected to serve as goodwill ambassadors among their peers during the school year.

Group photos of the summer of '86 and '87 students were taken at the final reception and are on display in the headquarters lobby. Students are encouraged to bring

their family and friends to the transit authority to see the picture and reinforce the message that they are a part of the system.

Community Education Campaign

The community education campaign consists of speakers available to address civic and social organizations with the antivandalism message and on-site visits at large local events. Metro provides a clean bus parked next to a dirty bus with the sign "Which Metrobus do you prefer to ride?" The public is invited to walk through the two vehicles while being informed by Metro employees of the costs of vandalism and graffiti. After signing the "Join the Metro Clean Team Board" and taking a pledge to keep all buses, bus shelters, stations, and trains clean, each visitor receives an inflated balloon which reads "Help Keep Metro Clean." This balloon rewards the recipient for supporting the antivandalism campaign and reinforces the message.

Last summer, a partnership with the District of Columbia libraries was inaugurated with the libraries' children's division. The summer reading program theme for 1987 was "Readers on the Move" and served as a promotional tie-in with Metro's Mr.

McGruff Safety Program. Twenty-three branch libraries were visited, with about 5000 youngsters age 4-14 receiving the transit education safety program. Each attendee received a "Help Keep Metro Clean" bookmark with easy short-word sentences printed on them, giving the children an opportunity to learn to read first words such as "Do not mark or write on seats, windows, or floors." This program involvement also keeps the antivandalism momentum alive during the summer.

Employee Campaign

Another part of the education campaign addresses employees of Metro. The employee education effort includes field visits to those Metro employees who deal directly with the public, including operators and attendants. They are told about the school and community campaigns and asked to support the MAP. They are encouraged to report vandalism and to assist in identifying areas (particular intersections and sections of track) where vandalism occurs frequently. Knowing where it happens helps us in the elimination and enforcement parts of the program.

Enforcement

Another essential element of the pilot study is enforcement. Metro prosecutes to the "maximum extent allowable under law those who are caught destroying property. Students are shocked to learn that they can be arrested for writing on a seat. During the school program, the students in the upper grades are told that they could get a police record if they are arrested for destruction of property. This information makes a definite impact on the students.

An impediment to strong enforcement can be a court system that is backed up with other serious crimes. Acts of vandalism pale when compared to murder, rape, and robbery. To assure that vandals who are first offenders are not allowed to go free, Metro transit police developed an innovative approach to sentencing. A diversion program was developed in conjunction with the courts and Metro so that first-time juvenile offenders caught destroying Metro property were sentenced to a four-hour Saturday class. This is a continuing program. The class includes presentations by the court, the transit police, bus services, rail and facilities maintenance, and MAP. By attending, offenders do not have the arrest on their records and are given a second chance. This method has proven very successful. To date, no second arrests have been made of minors who attended the diversion program. Metro is con-

tinuing to work with local officials to strengthen-existing laws for restitution and work sentences.

Elimination

The elimination element of the campaign demanded a commitment by all transit departments affected by graffiti and vandalism to immediately remove all damage as soon as it is reported, or as quickly as staff and material would permit. Metro operates under the theory that graffiti breed graffiti and the hardest mark to make is the first one. The transit authority made a serious long-term commitment to maintaining the appearance of Metro facilities and equipment. That commitment, initially costly, has paid off.

For proper program evaluation to be made, a certifiable data base needs to be established. Your original base line should reflect where you are now with vandalism costs and monitor those costs and their reduction after program implementation. It takes about 2 years to begin to see a noticeable cost reduction. Important to note is the inclusion in your cost figure of hidden labor costs, such as one hour of clerical time to process the order of repair materials, or gasoline for the truck to take repair staff and materials to damaged transit facility sites. Another cost factor experienced by transit authorities and often not documented are the compensation claims both by injured employees (bus operator receiving glass in face after projectile hits windshield) and injured patrons (seated patron receiving glass in face after projectile hits side windows). Although it is difficult to quantify, another cost associated with vandalism is the loss of revenue when a system is allowed to deteriorate. Graffiti-laden vehicles give a psychological impact of fear to potential riders. People surrounded by graffiti or damaged equipment become afraid because of the feeling that the situation is out of control: if glass can be broken or scribbling be done, what is to prevent those vandals from harming the patrons?

Even with limited resources, the Metro Awareness Program pilot study showed a real decrease of damage in areas where schools and community events were visited by the Metro Awareness Program and where graffiti is removed as quickly as they are reported. The program to date has included visits to 110 schools throughout Maryland, Virginia, and the District of Columbia, which have reached over 30,000 students. This level of effort resulted in a decrease in vandalism and graffiti. I might add that during this same time, ridership rose 24 percent, so the net effect of the following statistics is even greater.

On Metrorail, 7910 incidents of vandalism to transit cars were registered during the first seven months of 1985 before the pilot program was implemented. A dramatic drop to 2703 incidents registered during the first seven months of 1986 represented a 66-percent decrease in incidents.

On Metrobus, \$705,508 was spent for vandalism and graffiti damage in FY 85 before the implementation of the pilot program. The concentration of effort was placed on those schools serving bus routes experiencing extreme levels of damage. Interestingly enough, those buses serving routes with little or no vandalism did not have school visits and the vandalism costs increased. Preliminary figures indicate an overall decrease in FY 86 and FY 87 vandalism and graffiti costs.

The figures necessary to establish a baseline for facilities maintenance costs are still being collated; however, preliminary data suggest at least a \$30,000 savings realized since the program's inception. The figures initially available did not include repairs to elevators and escalators; this contract cost is now included in reported dollars. These initial results are gratifying. There is a firm belief at the transit authority that sustaining these results will require an ongoing commitment to the education and training of the young people who may currently ride the system and will be the passengers of the future.

Collateral Materials

To help win the antivandalism war, many materials such as brochures, T-shirts, pencils, rulers, buttons, and bookmarks have been produced and distributed. A unique approach for an information piece was developed and has proven extremely successful in capturing students' attention and support. In place of an ordinary paper brochure that most likely would be tossed aside by recipients, compressed cellulose was used to print an antivandalism message on one side and the "Help Keep Metro Clean" theme on the other. Students receive this information piece and are told to read both sides, share the message with their family and friends, and then wet it. The piece inflates to a sponge reinforcing the keep it clean motto. Because funds were limited, the sponges were underwritten by an outside agency that shares the vandalism and graffiti problem—the local telephone company. I have created a "wish list" detailing cost and quantity of collateral materials and then approach private industry, encouraging them to defer some of their advertising dollars into supporting the Metro Awareness Program and promoting a clean and safe public transportation system for all. Response has been overwhelming.

Appendix

The Money Game: Who Foots the Bill?

Each participant is given \$120.00 in play money to represent the taxes they would pay on a \$360-per-week job. During the game, they see four slides showing some part of the Washington Metropolitan Area Transit Authority that has been vandalized. Each vandalized item has a dollar value assigned to it, and each player is required to return to the leader the amount of money that each item costs to be repaired or replaced. By the time the leader gets to the fourth slide, the participants have no money left. When they ask how they will pay for the damages with no money left, the leader explains that the money to run Metro comes out of the pockets of the public. The money is collected through higher property taxes and increased bus and subway fares. This affects the participants personally when they use public transportation because it costs them more money to ride.

The Impact of Graffiti on Neighborhoods and One Community's Response

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Abstract

Setting aside the reasons (historical, sociological, or psychological) why some individuals engage in graffiti, a group of Seattle business, community, and professional people organized an area-wide response to this kind of vandalism, perceiving it to be extremely destructive to the health of their neighborhood. The obvious physical defacement of property (public and private) was a negative drop-in-the-bucket compared to the potential long-range impact of both economic and social disinvestment, such as people's ignoring litter, being unwilling to shop, avoiding parks, and so forth. This paper describes the tactics of the communities' involvement (organized by the regional chamber of commerce with the assistance of local public and private agencies and institutions), the initial impact on the problem, and the payoff to the community.

Keywords: Graffiti, neighborhoods, communities, economic impacts.

Introduction

Graffiti are a ubiquitous and annoying part of modern life. Meaning literally "to scratch," the term now refers to the drawings carved or painted on public surfaces. The paint usually comes from an aerosol can or a magic marker. The drawing can depict a scene or be a signature. In fact, elaborate signatures are so common that they have acquired names of their own—"placas," or "throw-ups." Mural-like graffiti, which are more rare, are known as "pieces."

Officially, writing graffiti is a minor crime. In reality, it is a crime against the neighborhood and the neighborhood's sense of proper public order. Thus, that graffiti producers are usually young adolescents—the natural rebels against adult order—is not surprising, nor that urban graffiti production seems to be greatest where adolescents congregate. Graffiti, as such, are not seen by neighborhood residents and business people as a reason to fear crime (McPherson and others 1984). In local neighborhoods, however, graffiti are highly visible and unacceptable forms of crime with direct and indirect negative effects on community vitality.

This paper describes one community's efforts to control graffiti; here, most graffiti were signature paintings done with aerosol paint shoplifted from neighborhood stores. In some cities, antigraffiti programs have been conducted by public agency staff personnel. Philadelphia, for example, had 21 staff members spend \$1.2 million over 18 months to paint out graffiti, getting kids to make fake doors for abandoned buildings so they would look occupied, and other equally creative efforts (Duffy 1985).

Unlike these public programs, Seattle's program was strictly a self-help, community-based, low-budget effort. The Rainier Chamber of Commerce organized an antigraffiti effort based on the assistance of their half-time staff person, on hours of work from committed volunteers, on donated supplies, and on connections to over 20 other neighborhood organizations.

The Neighborhood

The neighborhood involved, locally known as "the Valley," covers 12 square miles. It is split roughly along two north-south lines into a relatively affluent area near Lake Washington, a middle-income area on the hill to the west, and a poor area through the center. The highest concentration of graffiti occurs along this center corridor with its arterials, bus lines, and business areas. Sprinkled through it are various business districts, some of which were once the centers of independent incorporated towns—with names like Rainier-Genesee, Columbia City, Hillman City, Rainier Beach, Beacon Hill, and Martin Luther King Way.

As a whole, the Valley includes perhaps Seattle's greatest mixture of races and income. Slightly more blacks and Asians than whites live in the area. Over the 10 years between the last two censuses, the white population of the area has dropped 40 percent, the black population has increased by 96 percent, and the Asian population has increased by 47 percent. The total nonwhite population of the area has increased by 70 percent (Department of Community Development 1984).

The area has some of the city's largest concentrations of persons below poverty, including two large public housing projects. It also has a household median income slightly above the city's average. It has the city's largest increase in the number of families in poverty that are headed by a woman (Department of Community Development 1984).

A United Kingdom public-housing study suggests that when the number of children aged 6 to 16 exceeds 5 per 10 dwellings, or 25 percent of the total population, then the wear and tear, vandalism, and graffiti increase (Wynne, no date). The Valley has the highest child-per-capita population in Seattle. Twenty-two percent of the city's total school-age population live here; 19 percent of the neighborhood's population is between 5 and 17 years old—in a city where children of this age comprise only 13 percent of the population. Although the area does not quite reach the concentration of youngsters that the British study found associated with increased graffiti, the percentage is much greater than elsewhere in Seattle.

No systematic data are available on the incidence of graffiti or vandalism around the city or on changes in their frequency over a period of years. The only data on crime in this neighborhood are those available in the police department's annual reports. Those documents are limited to "part one" offenses like murder, rape, assault, robbery, burglary, theft, and auto theft. These reports do show that major sections of the Valley have had one of the highest rates in the city for part one offenses over the last decade.

Changing racial patterns, different incomes, concentrations of poor families, large numbers of children, and higher rates of crime are symptom of an area in transition. This condition is not new to this area: it has been home to new arrivals for decades. Originally settled by northern Europeans, the Valley became known derisively as "Garlic Gulch" during the early 1900's. Somewhat later, the new arrivals were from Japan and China; now they are from Vietnam, Kampuchea, the Philippines, and Samoa. The number of blacks began to increase after World War II, though they

had been a small, significant partner in Seattle's earliest development. Their children moved into the Valley in increasing numbers 20 years later.

The Problem With Graffiti

Graffiti were appearing more frequently in the 1980's and, by 1986, were spreading like a blight along the most highly visible areas in the Valley—along the main thoroughfares, through the numerous local neighborhood business districts, and among other smaller clusters of businesses in between. Graffiti were appearing with persistent frequency on bus stop shelters, on store and office windows, on walls, on utility and mail boxes, on fire plugs and street signs, and on shop signs and awnings—anywhere with a reachable surface to decorate with some mark or design, usually "placas." Far from seeing any creative impulse being expressed in the dark blues, greens, and blacks, or in the bright reds, pinks, and yellows, the merchants and their customers viewed this "art" as another attack on their neighborhood by antisocial elements; attacks which, if not checked, would contribute to social and economic decline.

Awareness of graffiti and an antigraffiti campaign erupted like spontaneous combustion among members of the Rainier Chamber of Commerce. Various kinds of crime problems had concerned businesses for years—shoplifting, smash-and-grab burglaries, in-store and strong-arm street robberies, auto prowling, and bothersome problems with window breakage, litter, and now graffiti. The newer problem of drug activity in the neighborhoods was also generating widespread concern.

During this time, the Chamber had been working with the Police Department's Business Watch Program and the local precinct. Business Watch staff updated the commercial neighborhood directories, suggested crime prevention improvements for individual merchants, and, with the Chamber, coordinated a new tactic for removing drug dealers from privately owned property. This latter tactic, a criminal trespass ordinance, would prove especially helpful with the antigraffiti campaign.

The Strategies Adopted The community reacted in several ways. Some merchants first called police to catch the young artists, who could run faster than most of the merchants. Some of the artists were caught in the act. And business owners painted over graffiti on their own property.

In September 1986, a local merchant tired of driving by the graffiti as he was going to and from work in a neighborhood two blocks away from the local Chamber of Commerce office. He independently organized a "paint-out" of 15 buildings in his area and continued to touch up his work every 2 weeks.

In a parallel move, also occurring in early September, "doing something about graffiti" had become identified as the number-one program goal for the Chamber. Such intense and focused concern about graffiti had developed gradually during the previous year's work of their economic development committee, a group of about 30 community leaders. This group was committed to retaining existing businesses in the area, attracting new businesses, and improving the image of the Valley to residential and commercial interests alike.

To organize a response to the "graffiti problem," the Chamber orchestrated a panel discussion at the local community club auditorium in October that included the police, engineering staff, "little city hall" staff, the citizen's service bureau, representatives of the school maintenance program, and local business people. Included in this mix were the members of the Chamber's new graffiti committee.

By November, the Chamber was in full swing with the regionwide effort. But they were not so preoccupied with this new effort that they forgot their fellow graffiti fighter and his paint-out; they gave him a framed certificate and a year's membership in the Chamber to thank him for his efforts.

The Chamber program was multifaceted. Posters announcing a reward for reporting and catching graffiti offenders appeared in local business windows. The city engineering department produced a flyer providing information on strategies for removing graffiti from various surfaces. Chamber members and public agency staff broadcast the flyers across the area. The police instituted joint citizen-officer patrols and special reporting procedures. The Chamber created a 24-hour antivandalism hot line.

The Chamber coordinated with the parks and engineering departments for litter clean-up projects. Members worked with youth to motivate more positive behavior and gave an antigraffiti good citizen award at a local high school. They also helped to punish youthful graffiti producers. Under the supervision of Chamber members, some young offenders did paint-out work as a form of community service sentence.

Engineering staff inquired through the intergovernmental electronic bulletin board about spray-paint ordinances in other parts of the country. They found that some jurisdictions have banned the sale of aerosol paint and others have taxed its sale and use the revenues to fund graffiti removal. Westchester County, New York, adopted such a position in 1985 (Williams 1985). Several jurisdictions in California had done the same thing (Grain's 1986). These seemed to be strategies worth pursuing.

A local lawyer and the city's law department and council staff drafted an antigraffiti ordinance which would restrict the display of magic markers and aerosol paint and deny their sale to minors. The ordinance has not yet passed, but the Chamber has encouraged local retailers to voluntarily pull spray cans off their shelves or to control the sales and possible shoplifting by hiding them from view.

Concerned with drug selling, the police department and city law office staff had analyzed the city's criminal trespass ordinance and found that, properly applied, it could restrict the presence of drug dealers in parking lots and other such areas of the district. Flyers, explaining the law's application, were designed by Business Watch staff and the local Neighborhood Business Council. The Chamber distributed the flyers. They provided "no trespassing" signs at cost to local businesses. The Chamber worked with police and businesses to obtain signed agreements authorizing patrols to challenge anyone on business premises after hours. Officers stopped, questioned, and ordered all kinds of people seen around these buildings to move on.

When the patrollers realized that some of the adolescents being stopped were potential graffiti offenders, the no-trespassing ordinance took on a new dimension.

Beginning that first fall, Chamber members began to schedule what was to become the mainstay of the total effort: weekly paint-outs. Volunteer paint crews were assembled. They found donated paint. Chamber meetings were interrupted with "pass the paint bucket" fund-raising efforts.

The paint-out sessions have continued into the present. During those 18 months, a core of Chamber members, family, and friends have volunteered countless hours. Discounts on paint from local merchants or outright gifts of paint or money from various people have provided the needed supplies. This program has been powered by the stubborn commitment of the Chamber's antigraffiti committee.

Some surfaces have been repainted at least 30 times. The areas of most frequent and persistent graffiti are around bus stop shelters (which probably have the highest vandalism rate), around 24-hour convenience stores, near fast-food outlets, close to schools, and in public park facilities. Some of the low-frequency locations have only been painted out twice, either by the Chamber committee or by a private business.

The list of job sites for a recent paint-out identified 54 locations, only half of which were reached that week. The majority of sites were so familiar that the paint color was already known. On the list were markets, restaurants, dentist offices, garages, fruit stands, dumpsters, fences, abandoned buildings, warehouses, community clubs, taverns, apartment houses, and banks. One weekend, the crew reported that they had repainted the north half of the main thoroughfare.

Colors became identified with certain neighborhoods. Hillman City was gray, Rainier Beach was brown, and Columbia City was beige. "Cumulus," an off-white, became a popular color because it covered everything in a nondescript shade. Fifteen gallons of bus-stop brown were used in dealing with graffiti in those locations. Gradually, the face of the neighborhoods changed from spots to blocks of color, and from blocks to entire walls.

The most practical means of removal has proved to be this method of matching or nearly matching color and painting over the graffiti. Painting is time consuming but relatively easy compared to removing graffiti from raw brick, stone, or concrete surfaces. These jobs are left for more labor-intensive and sophisticated removal methods used by private contractors or individual businesses themselves. Another puzzler is what to do about the polycarbonate glazing now adopted for bus shelters and some commercial windows. The paint will not wash off that surface. Creative types have tried all sorts of remedies—toothpaste, for instance—without success.

Public agencies have also contributed to the paint-out effort. The public-school paint crew, which has only two people available city-wide, has removed graffiti. So have the engineering department personnel and the parks personnel.

The Chamber encountered initial resistance from most public bureaucracies. "The larger they are the more impossible to work with," according to one Chamber activist.

These agency staffs have displayed a range of negative reactions, from resistance to community-initiated ideas to union concerns for safeguarding union-protected staff and functions (school custodians can "clean" but not "paint," for example).

The Chamber has plowed ahead in spite of slow public agency response or lack of cooperation. The public transportation agency, for example, did not routinely remove graffiti but did remove entire bus shelters from time to time. The shelters are still not always replaced promptly thereafter. The agency provided no week-to-week help in removing graffiti, even though their shelters were (and are) prime targets for graffiti. They have acquiesced to the Chamber crews for the painting out of bus-stop graffiti. Chamber members have noticed that trash containers disappear around bus shelters, compounding the litter problem. Chamber persistence has sometimes had positive results. After several meetings with school officials, the Chamber finally did get the green light to go after graffiti on school buildings.

The neighborhood efforts against graffiti have gradually centered on painting it out. A stable group of volunteers have spent every weekend for months doing just that. Public agencies in the neighborhood have slowly made their own contribution to the effort. The area is gaining a new character; it is no longer slashed with black or vivid colors but instead is mottled in basic off-white, gray, and beige.

Since the project began, the Chamber has received more than 80 gallons of paint and almost \$2,000 in cash contributions (one-third from local branch banks), bought an additional 40 gallons of paint, used 3 types of removal substances (15 gallons in all), and used 30 brushes, numerous gloves, yards of masking tape, and other materials. Chamber members have donated at least 720 hours for actual painting and another 70 to 80 hours for meetings and strategy sessions with the community and relevant agency personnel. The project has been an extremely impressive grassroots-initiated, volunteer effort from the beginning to the present.

He Results

Although no quantitative measure of this program's success has been made, the Chamber has observed several interesting developments in the course of the project. First, a distance-decay effect with graffiti has shown up on more buildings surrounding a high-frequency core. When the Chamber falls behind in returning for more paint-outs, the graffiti worsen in those areas. The same thing happens when individual businesses stop removing it.

Second, surfaces along one of the two main thoroughfares tend to stay cleaner longer than those along the second main street. Locals believe that the differences are the result of the number of buses and their frequency along the heavily painted street. With more frequent buses come more juveniles moving through the area, day and night.

Third, greater intervals between the reappearance of graffiti does not signal their complete disappearance. Philadelphia discovered that two of every nine surfaces were repainted (Duffy 1985). Local observers suspect that the Valley has a higher rate, but the actual rate is unknown. Graffiti continue to appear around apartment complexes, bus shelters, and other high-traffic areas. Consensus of Valley residents

(and the authors) is that former problem areas are staying "fixed" much longer than before.

A recent addition to the antigraffiti program has been the creation of a residential committee charged with coordinating responsibilities for all noncommercial buildings—homes, apartments, churches, and schools. The Chamber, 'itself, has moved on from its efforts against graffiti to adopt a 15-point program for controlling crime in the Valley. The program stresses self-help efforts and closer coordination with the police department.

Summary

This community has made significant progress in the 18 months since the Chamber organized its antigraffiti project. This progress is especially evident in increased joint interagency-community cooperation. The continuing participation of local businesses and residences in this essentially self-help enterprise will be critical for any long-range impact on the problem. The public sector can provide needed support in legislative and policy leadership, such as passing spray-can and felt-pen ordinances. Relevant city and school agency personnel can assist with coordinating functions. On the other hand, public sector agencies can also be major impediments. The main impetus for constructive activities will remain in the community. This is their neighborhood, and 'its future character will remain their responsibility, whatever role the other actors, public or private (including the young graffiti artists), play at present.

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Reduction of Vandalism to Traffic Control Signs in King County, Washington

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Abstract

Vandalism to traffic control signs in King County, Washington, resulted in fatalities in 1976 and 1979. The total incidence of vandalism during the same period increased from 9,846 to 13,635, at an annual cost exceeding \$300,000. King County Department of Public Works initiated a community-awareness program in 1980 designed to reduce vandalism to traffic signs. This paper explores the physical, jurisdictional, and media constraints in King County on developing and implementing a public-awareness program. It outlines a variety of tools and techniques used to increase citizen awareness of traffic signs and analyzes the effect of the program. The paper also explores several techniques used in the field and in sign installation to reduce and discourage vandalism to traffic signs. The results speak to the costs and effectiveness of the program. Although the program was in effect during a period of inflation, rising costs, increased vehicular mileage, and driver and population increase, the incidence of vandalism has decreased to 9,200, and annual costs have been held below \$300,000.

Keywords: Vandalism, traffic signs, community awareness, costs.

Introduction

Vandalism to traffic control signs in King County, Washington, resulted in fatalities in 1976 and 1979. A program was needed to address the excessive nature of the vandalism, to help ensure the public safety, and to reduce costs.

The Problem

More than 88,000 traffic-control and information signs occur throughout the unincorporated area of King County, Washington. In 1976, a motorist was killed at an intersection where the stop sign had been stolen. That year 9,846 incidents of vandalism occurred to traffic control signs. In 1979, another motorist was killed at an intersection where a stop sign had been stolen. That year, 13,635 incidents of vandalism occurred to traffic control signs, a 38.4 percent increase. The cost of repair and replacement exceeded \$300,000.

Background

Vandalism has been with us for a long time. History tells us that the Vandals swept through Europe during the fourth and fifth centuries, causing widespread destruction to the landscape, buildings, and artwork of Gaul, Spain, and North Africa. The highlight of the Vandals' conquest was the sack of Rome in A.D. 455.

Vandals are with us today; their destructive force is evident. Many people participate in the socially accepted activity associated with Halloween when "trick-or-treat" mischief is condoned. Other activities in today's society suggest that vandalism is acceptable; for example, some intellectuals argue that graffiti are art. Recently, a local television station used a traffic stop sign as a prop for a popular children's program. A national manufacturer of wall paneling and interior decorating products used traffic control signs as its motif for a nationally advertised and distributed product line.

Research shows that few data are collected by public agencies of the costs of vandalism. Within that context of apathy, the King County Department of Public Works developed a program to reduce the incidence of vandalism to traffic control signs and used public awareness and citizen participation techniques to carry out the program. From the beginning of the program in 1980 to spring 1988, no fatalities have resulted from traffic sign vandalism, and the incidence of vandalism has been reduced by 34 percent.

The Annual Plan

A general planned program was developed and implementation begun in 1980. The same plan has been used in subsequent years, with some elements modified each year. The plan accounted for the cyclical nature of the problem; government and special taxing district interests; and the educational nature, content, and age of the targeted audiences. For example, interest in student safety is probably greater at the beginning of the school year than in the spring. Generally, interest in community projects and community welfare is greater in the fall than in the spring.

The schedule and elements of the general plan for increasing public awareness of traffic signs in King County follows. Some elements will be explained later.

June: Develop the fall program, identify specific elements and audiences to be addressed in the awareness campaign.

August: Mail letters, news articles, and stories to special audiences that have publication deadlines and schedules. Order tailgate space on buses. Mail

letters and requests to special districts requesting their participation and involvement in the program. Request special interviews by several agencies. Explain to school districts the "eyes and ears" program. Request fire district involvement.

September: Contact and meet with agencies about their participation in the plan. Schedule messages on paychecks. Send letters to chambers of commerce asking for a paragraph in their newsletters. Request a crawl on cable television programs.

October: Meet with Fire Chiefs Association and other special groups.

November: Conduct Sign Amnesty Day (the Saturday before Thanksgiving). Participate in news events, request County Executive to sign a proclamation. Issue press releases on the importance of traffic signs. Followup on Sign Amnesty Day; Roads Division picks up signs.

Awareness Activities

Possession of traffic signs in King County can result in a fine of up to \$500 and 6 months in jail. These penalties are waived during Sign Amnesty Day. On that day, the Saturday before Thanksgiving, holders of traffic signs may turn them in at fire stations throughout the County, no questions asked and without repercussion.

Support for and involvement in Sign Amnesty Day begins several months before the event, allowing the media to give time to the public service problem, to interview those involved in the program, to photograph the sign shop, and to otherwise focus attention on the event. Coordination of the Fire Chiefs Association, the 56 fire districts, and city and public works personnel is important. Suburban cities are encouraged to participate in the program and to develop their own individual programs. Mayor, county executive, and city and county councils are invited to pass motions and proclamations encouraging awareness of traffic signs and pedestrian safety. Activities in the yearly awareness plan culminate with Sign Amnesty Day.

These elements represent activities that could be scheduled and done over several years. All the activities listed have been done by the King County Department of Public Works.

The Setting

King County is one of the largest and most complex counties in the continental United States. The eastern two-thirds of the county contains forest preserve and vast wilderness areas, including mountain passes and remote alpine areas. The western third contains dense urban population. The City of Seattle is the county seat and the focal point for financial and commercial interests. With a population exceeding 500,000 people, Seattle is a center for cultural activities, educational institutions, and press and other media enterprises. The 27 suburban cities are populated with over 310,000 people and account for large employment centers. The balance of the population—another 530,000—is located in the unincorporated parts of the county. King County covers 2,235 square miles, an area larger than the State of Delaware. The land area for all cities, including Seattle, totals about 235 square miles. The program to reduce vandalism to traffic signs was aimed at the suburban and rural parts of King County.

Press and Other Media

King County, Seattle, and its suburban cities are served by many newspapers and radio and television stations. Readership of the two regional daily newspapers is about 20-25 percent. Readership for the local suburban papers may be as high as 33 percent. The design of the program needed to recognize the importance of the newspapers in public opinion and awareness and to appeal to the readers' sense of community involvement and responsibility.

Of the six television stations serving the region, none is principally oriented to the concerns and public issues of the suburban and rural portions of the county. Thus, the program also needed to respond to the limits of the press, other media interest, and markets.

Other Organizational Considerations

King County has more jurisdictional interests and special taxing districts than any county in the United States, including Cook County, Illinois. The diverse collection and complexity of local taxing districts and special interests reflect the peoples' interest in government. People in King County like to be near their government. They want to be involved in their government. Because involvement was the key to the success of vandalism reduction, the program called for participation of many jurisdictions:

- King County—general government
- 28 cities
- 56 fire departments and fire protection districts
- 53 water and sewer districts
- Municipality of Metropolitan Seattle (METRO)
- 16 school districts
- Washington State Department of Transportation (WSDOT)
- Public safety agencies
- Court system, including city district courts

Program design and administration needed to respect the interests of each of the participating jurisdictions and to recognize the limits of each.

Definition

Vandalism to traffic signs was defined as any damage, destruction, theft, or defacing of traffic signs, which includes stealing; knocking down—whether intentional or unintentional; defacing by shooting or twisting; and destroying or removing the reflective surface by milkshakes, beer, mud, dirt, paint, graffiti, or other substances. A traffic control sign should last at least 25 years with normal maintenance.

The Vandal

Who is the vandal? In an area as large and populated as King County, an organization or agency cannot easily confront a vandal or would-be vandal. Acts of

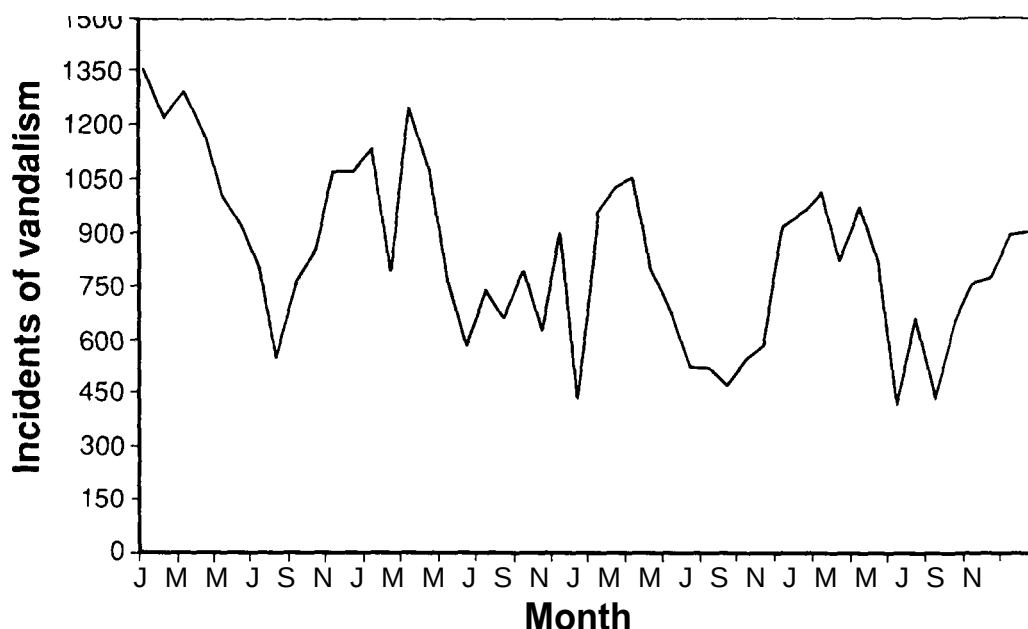


Figure 1—Average incidence of vandalism to traffic signs in King County, Washington, 1981-84.

vandalism seem to be committed by persons representing a wide spectrum of ages, but documented cases imply that vandals mostly range from 13 to 28 years old. Vandals may be hunters frustrated after a day of no shooting. A vandal may be an adult who is angry at a spouse and takes out the hostility on a traffic sign. Vandals may be people who are angry with society. Some vandals think their actions do no damage at all, but seemingly harmless acts—such as throwing food or beverages at signs—ruin the reflective properties of the signs so that they are illegible or hard to read.

Patterns in Vandalism

Data collected by the King County Department of Public Works suggest patterns to the vandalism of traffic signs and a recurring nature in the patterns. Figure 1 indicates that (1) vandalism rates increase during the winter—when the daylight hours are reduced, temperatures are low, and standard time is in effect; and (2) vandalism decreases during the summer—when daylight hours are longer and when people take vacations and are more relaxed.

Further research may find correlations between incidents of vandalism and winter. The season for vandalism to traffic signs begins on Halloween—October 31. The incidence of vandalism from 1976 to 1986 is shown in figure 2.

Field Techniques To Reduce Vandalism

Traffic signs and pedestrian and vehicle safety are the responsibility of the Traffic and Planning Section, Roads Division, King County Department of Public Works.

The Traffic and Planning unit has two teams of the unit install and maintain the traffic signs throughout the unincorporated parts of the county. The teams are uniform in their methods, which are briefly identified as follows:

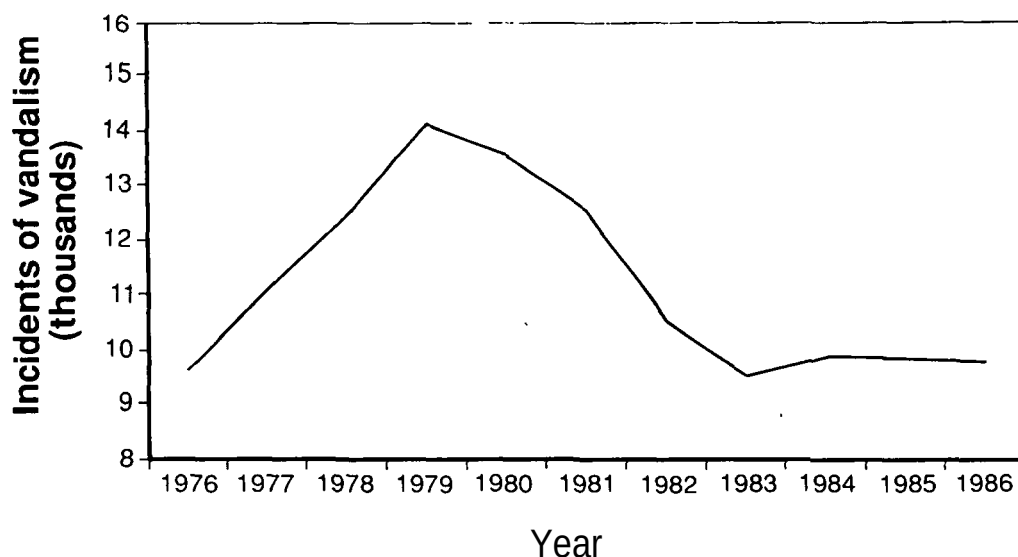


Figure 2—Incidence of sign vandalism, 1976-86.

Installation—Traffic signs are installed according to the Uniform Manual on Traffic Control Devices.

Identification—Traffic control signs are identified, labeled, and inventoried according to a key printed on the back of the sign.

Anchor—Mutilated signs are cut in strips and used as anchors on installations of new signs.

School Districts

A school district is the most universal organization in most communities. Its involvement and interest in the welfare of the students and the future of the community is the glue that holds many communities together. Each of the 16 school districts in King County has resources that can be called upon to help in awareness programs and the education of the community. For example, Parent Teacher Student Associations (PTSA) have safety committees and safety programs designed for the students and parents, and school newsletters are sent to households throughout their attendance areas.

Other Tools of Communication

The vandalism reduction program builds on existing tools of communication within interest groups and structure of the community. Most school districts have buses or other transportation. Bus drivers are requested to be the extended eyes and ears of the county roads. If drivers see downed, damaged, or otherwise vandalized traffic signs, they report the information to the county office. The county corrects problems under its jurisdiction and alerts appropriate agencies when problems are outside of its jurisdiction. Eyes-and-ears reports are also requested of special taxing districts: police, fire, state patrol, and water and sewer districts. All public service utilities become a part of the vandalism reduction effort.

House Organs and Newsletters

Within the county, special-interest newsletters reach specific readership. Organizations publishing material on the program include the Automobile Club of Washington,

The Evergreen Safety Council, County Road Administration Board, and the Municipality of Metropolitan Seattle.

Public Service Tools

The county uses space for public service messages on tailgates of Metro buses. The county pays the cost of printing and mounting the advertising panels; Metro provides space for 50 panels during November. The message is simple: "Report damaged traffic signs, 255-2531."

Graphic arts students at Washington State University in Pullman were asked to submit designs that could be used on the sides of milk cartons. In cooperation with a privately owned dairy and the Washington State Dairy Farmers Commission, four designs were printed on 2 million cartons and distributed throughout western Washington.

A similar public service message was provided on 3,000,000 grocery bags by a major grocery chain. The message "report downed or damaged traffic signs to 255-2531" appeared on county employee paychecks. A similar message appeared on the billings of water and sewer districts. After the message was programmed on the computer, it could be sent to all the constituents of the district without additional cost to the serving utility. Local television and cable companies were asked to carry a similar message as a crawl on their programming. Bumper stickers were placed on county cars.

Observations

Figure 2 shows the incidence of vandalism to traffic signs in King County from 1976 to 1986. A substantial reduction in vandalism has occurred since the program's implementation in 1980. Figure 3 shows the number of registered vehicles in King County during the same period and figure 4 shows the comparison of the reduction in vandalism to traffic signs with the increase in automobile population. Figures 1 and 2 suggest the following:

- Vandalism to traffic control signs is cyclical: most incidents occur in winter and fewest in summer.
- A broad program involving the existing structure of the community will have an impact on reducing the incidence of vandalism on traffic signs.
- Many organizations of the community, such as schools and fire districts, will participate in the program resulting in a further impact on reducing vandalism.
- Both private and public sectors will participate in the program, especially when they are aware of the value and impact of the program.
- Participation of the private sector reaches the largest number of people in the community.

National Implications

Vandalism to traffic control signs is not limited to any one jurisdiction or municipality. Washington State Department of Transportation and the Oregon Highway Department estimate that vandalism to signs exceeds \$1.5 million annually. This figure suggests that National Highway Users Federation, Federal Highway Administrations, and

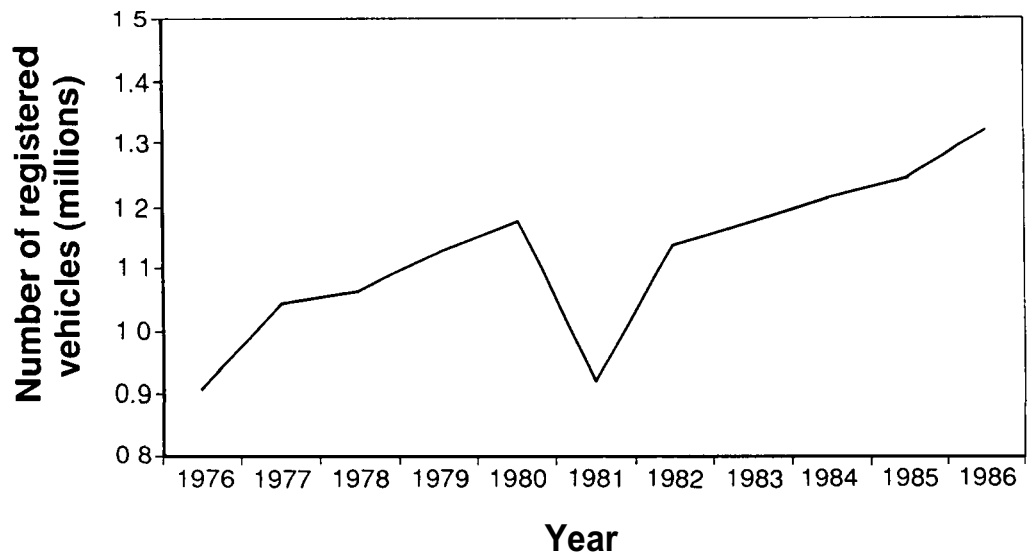


Figure 3—Vehicle registration, 1976-86.

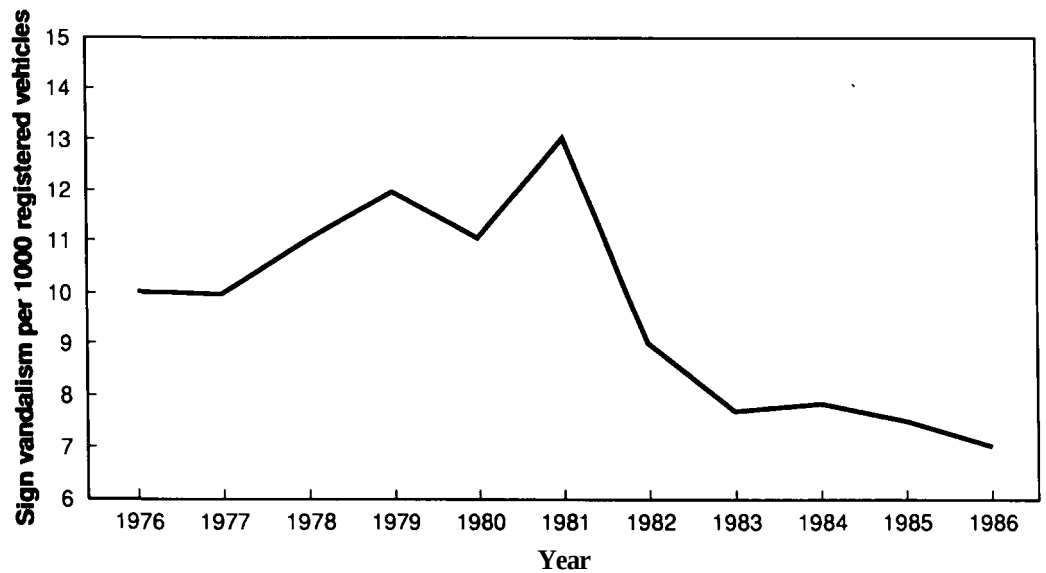


Figure 4—Vandalism trend: rate of vandalism compared to number of registered vehicles.

other national associations would want to research the cost of waste to the highway system and recognize vandalism to traffic control devices as an important public issue. Research and public information programs by national highway user groups, insurance carriers, vendors and suppliers, and safety organizations could significantly reduce such vandalism.

Summary

Vandalism to traffic signs is costly in terms of maintenance and repair, resulting damage to vehicles and property, and injuries and fatalities to humans.

The King County experience has shown that a long-term program of public awareness and community participation can reduce the incidence of vandalism to traffic signs. Costs of a program can be less than the costs of maintaining and repairing signs damaged by vandals. Public and private agencies need to be involved in the design and execution of such a program, and the public needs to be informed that their involvement is helping reduce the incidence of vandalism to traffic signs in the interest of their own safety.

Acknowledgments

The success of the King County plan and public awareness program which has led to the reduction of vandalism to traffic signs recognizes the contributions of many people, agencies, and organizations. Dick Hanlin, Public Relations Intern with Washington State University; graphic arts classes and students from Washington State University; Vita-milk Corporation for printing a milk carton side panel public service message; Safeway Stores for their grocery bag public service message; King County Fire Chiefs Association; and King County Department of Public Works Traffic Engineering Section.

Gangs and Graffiti: a Minneapolis Perspective

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Abstract

The Twin Cities metropolitan area, with a population of more than two million, has long enjoyed an enviable reputation of having an excellent quality of life and being relatively free of major crime. Recent changes in crime in the Twin Cities, however, include a significant increase in the amount of gang-related vandalism, including graffiti. Costs, both direct and indirect, are great. For instance, the city park system spends \$160,000 annually to cope with vandalism, including graffiti. These and other costs raise questions about who the perpetrators are and how the problem can be solved. Examination of the problem revealed both gang-related and non-gang-related graffiti. The paper describes problems of distinguishing the two types of graffiti, the relation of Twin City gangs to gangs in other cities, and graffiti as an early warning sign of larger social problems. Enforcement and education methods are described, including those used by public and private sectors as they have cooperated to control graffiti.

Keywords: Graffiti, gangs, perception, urban programs.

Introduction

The Twin Cities metropolitan area consists of St. Paul (the State capital), Minneapolis (the largest city in Minnesota, with an estimated population of 400,000), and more than 100 smaller communities scattered in a nine-county area some 50 miles in diameter. It has a population of more than 2 million, or about half of the State's population, and has long enjoyed an enviable reputation for having an excellent quality of life relatively free of major crime. Nevertheless, Minneapolis has experienced some alarming trends, such as a dramatic increase in the number of murders in the last few years (29 in 1984, 29 in 1985, 44 in 1986, and 46 in 1987).

In early January 1988, a teenager was murdered in a school building. The three minors arrested for this crime, all members of the Disciples youth gang (one of the gangs whose graffiti have appeared recently in increasing numbers), were not students in that school, but the incident (which started as a "punitive assault" designed to telegraph a strong message to the victim and his friends) has aroused much discussion on measures that may be necessary to deal with youthful criminals. Gang-related vandalism, most of which is graffiti, has also increased at an alarming rate since 1983. Not all graffiti are gang-related, and not all graffiti "artists" are juveniles. Graffiti are not strictly an American problem; in 1984, the "sprayer of Zurich," Europe's leading graffiti "artist," was sentenced to nine months in jail and ordered to pay \$90,000 in damages!

Costs

Two types of costs result from graffiti: direct costs, such as expenses incurred in removing graffiti and prosecution of their creators; and indirect costs, such as the decline in the value of real property in areas infested by graffiti and the social decay in some inner city neighborhoods. I have been unable to compile any reliable data for indirect costs; for direct costs, the following data, which do not include private efforts and are thus incomplete, show how expensive graffiti control is in Minneapolis:

- The city park system, more than 6,000 acres, spends some \$160,000 annually to cope with vandalism, including graffiti.
- The school system estimates annual costs directly related to graffiti to be about \$20,000.
- The Minneapolis Department of Public Works and Engineering spends \$10,000 to \$15,000 per year to remove graffiti from bridges. In 1987, to save money, graffiti were painted over only in response to a complaint, and this cost about \$5,000. Traffic Engineering spent \$6,000 in 1987 and, because of increased emphasis, expects to spend about \$10,000 in 1988.

Estimating how much money private individuals spend annually on graffiti removal is impossible because such incidents are rarely reported to police.

Whenever any activity becomes a budget item, public interest is aroused and questions are asked: Who are the perpetrators? How can we deal with the problem?

The Perpetrators

Until 1983, Minneapolis was virtually free of graffiti. Then, a dramatic increase in graffiti was observed by law-enforcement agencies, housing authorities, and the general public. Affected citizens asked for help, and the first task facing authorities was identifying the perpetrators. After all, graffiti are the "living newspaper" of the streets. Were these graffiti the result of a spontaneous desire to imitate what was happening in larger communities but accomplished here by mischievous individuals who had no connection with big-city gangs? Or were they an indication of gang migration or gang expansion to the Twin Cities in general and Minneapolis in particular?

Several agencies began to examine the problem of identifying the source of these graffiti, foremost among them Sergeant Loren A. Evenrud of the Minneapolis Park Police Department, an agency separate from but closely affiliated with the Minneapolis police.

Some graffiti are clearly decipherable. For example, some cryptic messages delineate the turf claimed by specific gangs (Ley and Cybriwsky 1974) and warn of pending intergang warfare, and so on. A couple of definitions may be needed here.

Gang—A gang is a group of recurrently associating individuals with identifiable leadership and internal organization, identifying with or claiming control in a territory in the community, and engaging either individually or collectively in violent or other forms of illegal behavior (U.S. Department of Justice 1975).

Gang (alternate definition)—A group of youths, known criminals, or convicts from the same neighborhood or penal facility and generally of the same race, banded together for antisocial or criminal activities. Gang members vary in their degree of affiliation with the gang. The classifications that are most relevant are (1) hardcore members who are totally involved; (2) affiliates or associates who socialize with the gang for status, recognition, and protection; and (3) peripheral members who join and leave the gang as their need for the gang arises (Breen and Alien 1983).

(Many other definitions of the term "gang" are extant, almost as many as writers dealing with the problem.)

Graffiti—Any drawing, inscription, figure, or mark upon any wall, rock, bridge, building, fence, gate, other structure, tree, or real or personal property (Anonymous 1986). Especially frequent targets are smooth surfaces in public places.

Although some gang members use graffiti merely to secure a reputation for themselves as individuals, usually, as Brown (1978) notes:

... the presence of graffiti offers an accurate indicator of turf ownership. They are used to mark off areas controlled by a specific street gang and act as a warning to would-be trespassers who are about to enter the gang's territorial domaine [sic]. Generally, the closer one gets to the center of the gang's territory the more dense will become the graffiti.

Additionally, graffiti may be of significant value in solving crimes. Jackson and McBride (1985) suggest: "If wall writings are present at the scene, the investigator should find out if the writings are old or new. If the writings are new, they may be linked to the crime." In Minneapolis, gang graffiti have been left at the scene of residential burglaries to intimidate the victims—usually the elderly and Southeast Asian families.

But by no means all graffiti are gang-related. Thus, data must be examined and extrapolated for the particular type of graffiti. Unfortunately, some of the best research in this field is not readily accessible and is classified; for instance, see Simandl and Konior (n.d.). In view of Chicago's extensive experience with street gangs, this volume, which police departments may be able to obtain even though it is not available on the book market, may give other communities information they need to make a judgment whether big city gangs are branching out to their area. In Minneapolis, the Metropolitan Park identified at least five big-city street gangs: the Black Gangster Disciples, the Vice Lords, the Latin Kings, the L.A. Grips (California based), and the Naturals (an American Indian group); a sixth gang, the Bloods, seems to be patterned after a popular police television show based in California. Evenrud (1985) describes the graffiti used by these gangs. This information is an invaluable aid to law-enforcement personnel working in neighborhoods where gangs are active.

Additionally, a computer roster of suspected gang members, identified by their legal names, addresses, gang affiliation, and monikers, is maintained by the Minneapolis Police Gang Unit to facilitate law enforcement.

The graffiti problem in Minneapolis is at least partly attributable to gangs. In at least one respect, graffiti are helpful to law enforcement: They assist law-enforcement personnel in identifying who they are dealing with and thus contribute to the success of investigations at least to some degree.

Who are the other "artists" causing the graffiti problem? The answer is necessarily speculative. They may come from various strata of society, and most likely are young males who use graffiti as an outlet for their creativity or frustrations, often imitating ominous graffiti without realizing the significance. Some graffiti may well be one-time occurrences for the individual perpetrator. Obviously, some of them may be the result of a "dare," a popular source of mischief by youngsters, who are intrigued by the element of risk and want to find out how much they can do before the police catch on. And some graffiti artists have sufficient talent that their work has been incorporated in serious publications dealing with modern art forms.

Law-enforcement personnel must be trained to recognize gang-related graffiti so that enforcement efforts can be tailored to the problem. If graffiti presage the infiltration of gangs from other cities, they may well be an early warning of larger social problems that will require a considerable investment in intelligence efforts to discourage them before they get out of hand. Graffiti assist in finding answers to such important questions as: Who is flexing muscles? What gangs are involved? Evenrud's research indicates that Minnesota is dealing chiefly with offshoots of Chicago gangs, as are communities in Indiana, Iowa, Michigan, and Wisconsin. He also estimates that, as of December 1987, several hundred marginal and hardcore gang members

Enforcement and EdUCation

were concentrated in certain Minneapolis neighborhoods, and many of these persons are actively involved in local narcotics traffic. A similar number of gang members also operate in St. Paul.

You may wonder what makes a location with a forbidding winter climate so attractive. I have been told by out-of-town criminals I have prosecuted that they like our very generous welfare system and the relatively mild consequences that follow a conviction by a Minnesota court. In addition, a local market exists for illegal drugs across socioeconomic strata; therefore, dealers can make money here.

Although some communities do have specific legislation dealing with graffiti, Minneapolis uses the statutes and ordinances dealing with criminal damage to property as a last resort in dealing with recidivists or individuals with an otherwise unsavory criminal history. Because Minnesota law provides for the confidentiality of all court proceedings involving minors (unless such minors are certified to be tried as adults), no data from the juvenile justice system can be included here. Recently, Safe School/Safe Park Zone legislation has been proposed to address the juvenile use of weapons and controlled substances.

Media involvement is a much litigated problem for the criminal justice system. The public has a right to know. The flip side is that gangs enjoy publicity, particularly if it is sufficiently sensational to make their image greater than their actual impact on the community. This publicity gives them greater prestige and power in the gang subculture. Image is all-important to gangs; the word "respect" appears often in gang nomenclature; these concepts are so important that instances are known where armed gang members have guarded their graffiti to prevent defacing by rival gangs. I believe, therefore, that any publicity, no matter how well intentioned, that contributes to a gang's prestige is counterproductive. Enforcement efforts may be frustrated by premature disclosure of the direction in which they are headed. This does not mean that properly channeled and thoughtfully developed publicity cannot be a powerful tool in dealing with the graffiti problem.

One solution is to provide walls, in appropriate areas, where students can write nonoffensive words or phrases (Williams and Venturini 1981). This strategy may well be overrated because crime-oriented people shun government programs—they do not like structure.

A great deal of cooperation has taken place among various agencies in the metropolitan area in general and within Minneapolis in particular. This cooperation includes both the public and the private sectors. Let me describe a few examples.

"Neighborhood Livability" is a program designed to enhance the quality of life in the neighborhoods of Minneapolis. Some 15 or 20 neighborhoods have been deafly identified with boundaries marked by attractive signs. Many of the inhabitants feel a strong loyalty toward their neighborhood, display civic pride, and are actively attempting to nip problems in the bud. Occasionally, the collective dander of a neighborhood is aroused by a very sad event, such as the murders of three young Native American women in the last year or so, all of whom came from the same part of Minneapolis. A serial killer, currently in prison in Texas, is now under investigation.

Under the Coordinated Neighborhood Action Plan (CNAP), inspections are made through specific neighborhoods, and environmental hazards, trash, graffiti, and other problems are noticed. Property owners are directed to correct the problem, and non-compliance is a misdemeanor. The irony is, of course, that the victim, in addition to the aggravation of having been victimized, also has to bear the cost of the cleanup; however, experience shows that graffiti breed graffiti, and a failure to enforce the ordinance vigorously will soon spawn additional graffiti. Departments represented on the CNAP Committee include Licenses, Health, City Coordinator, City Attorney, Minneapolis Community Development Agency (MCDA), Police, and other city agencies.

As we are meeting, a new project called "Eyes of the City" is beginning. Citizens are encouraged to report any unlawful acts or disturbing trends they observe to appropriate city departments. Special telephone numbers and simple forms are being developed to accomplish this goal.

Our active Community Crime Prevention (CCP) program plays an important role in graffiti control. When a pattern is discovered in a given neighborhood, the area is targeted and an educational effort about graffiti prevention and information on the best ways to remove graffiti are provided. The CCP program in Minneapolis encourages the formation of block clubs where members can share mutual concerns. Under CCP, since the summer of 1987, a SAFE (Safety for Everyone) program divides the city into 12 districts, with one police officer and one civilian working with neighborhood groups and community park centers in each district to prevent crime, including the spread of graffiti.

The Neighborhood Mediation Project was created in 1983. It has a small, paid staff and relies on many volunteers to accomplish its mission. It provides a diversion from the criminal justice system and classifies cases as either "juvenile" or "neighborhood." Juvenile cases are referred to it by the courts; neighborhood cases either originate with one of the parties or are referred by the police or another agency. When children are involved, the parents are requested to cooperate; the project has had considerable success, particularly with younger children. The many problems handled by the Neighborhood Mediation Project include graffiti. The project has produced four posters, one of which bears the legend, "Now there's a better way to clean up those teenage blemishes," and is specifically targeting graffiti. The Neighborhood Mediation Program also works with minority programs. Youngsters have been trained to assist in mediation programs. Every effort is made to use a member of the same race as that of the perpetrator. This approach has been very successful.

The public schools will force identified perpetrators to clean up graffiti; the schools use such tools as suspensions when all else fails to impress a youngster. School liaison officers charge persons involved in school property damage. In addition, the so-called DARE program, though primarily aimed at drug education, has also become involved in graffiti problems because connections are often found between graffiti and drugs.

Lana Mahoney is the coordinator of a Juvenile Crime Prevention Curriculum for both Minneapolis and St. Paul. This program is underwritten by the St. Paul Companies.

As a part of this program, Sergeant Evenrud visited 109 classes in the 1986-87 school year and spoke on "Park, Crime, and Vandalism: Who Really Pays?" This approach stresses both the monetary and the social costs of crime, especially as it relates to the extensive and highly developed Minneapolis Park System.

Tom Montgomery, Director of Operations of the Minneapolis Park Board, told me that the board's policy is to remove graffiti as quickly as possible, because "graffiti feed on graffiti." The less graffiti seen in parks, the less likely that additional graffiti will appear. Experience shows that the more the parks are used, the fewer graffiti will appear because the presence of a large number of people discourages damage.

Outlook For The Future Despite the concerted efforts described above, knowledgeable city officials predict an increase in the problem over the next 20 years. Because the populations that are the greatest source of graffiti are expected to double between 1980 and 2010 (Coleman and Guthrie 1986), if we assume that all other factors remain unchanged, the incidence of graffiti is also likely to double.

Recommendations What follows is an amalgamation of the ideas of numerous authors and of Minneapolis officials. Because many of these merely reflect common sense or have been suggested by several authors in one variation or another, they are presented without attribution to sources; all are included, however, in the references.

1. States or communities might want to prohibit the sale to or prohibit the possession of spray paints and indelible markers by minors, an approach already in use in some parts of the United States.
2. Stores might be required not to have such items available in open displays. (The use of facsimiles would enable store owners to inform their clientele as to what items may be bought by qualified purchasers with the assistance of a salesperson.)
3. Public surfaces could be painted with polyurethane-based products, which limit the ability of solvents to bond with base paints and facilitate the removal of graffiti with a cleaning solvent.
4. Stone can be protected with a special coating that prevents pigments from graffiti from settling into it. Various products are under development. One major problem is that, esthetically, the soft-earth-toned brick used for many new buildings should not be coated.
5. Law-enforcement efforts could be stepped up. (Historically, most communities have been unwilling to hire enough law-enforcement professionals.) Arrested "artists" could be put to work cleaning up graffiti in the community. Because this is hard work, it may discourage future incidents involving these individuals and, if the word gets out, also others. It is axiomatic that gangs are only as powerful as the community permits.
6. Community-wide education programs need to be started and targeted not only at youngsters, but also at their parents and at the general public. Of all the

available tools, education is probably the most promising. Interesting programs that keep youngsters busy during evenings, weekends, and vacations have obvious merits. Publicity regarding costs (including per capita tax increases caused by the need for graffiti removal) may impress some individuals who otherwise might not care. Block clubs, which represent the most basic unit of the community, are a valuable mechanism for dealing with the graffiti problem.

7. Slogan contests could be conducted, with prizes going to the winners and involvement of all youngsters in both elementary and secondary schools.
8. Full restitution, no matter how long it may take, should be required of the identified perpetrators. I am sure you realize that these matters are costly to investigate and prosecute effectively.

These suggestions could easily be expanded. Some of the ideas are not perfect—some of them, one could argue, punish the innocent (for example, the hardware store that carries spray paints). To blame the paint manufacturers would be as absurd as blaming the farmers for anorexia or bulimia. Essentially "good" products can be put to "bad" use. What is needed is broad-based community support and a balanced and reasonable approach that fits the specific community for which it is designed.

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Sergeant Evenrud, to whom I am indebted far more than the direct references in this paper indicate, very generously shared his research and made numerous suggestions on this paper. His unpublished paper entitled "Youth groups: patterns of counter-productive behavior" was particularly valuable in generating ideas.

Dolan and Finney's "Youth gangs," while not specifically cited, was also a most valuable source of important ideas in the preparation of this paper.

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Combat Vandalism Program

Wendy Hawthorne and Kelli Henderson

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Abstract

This paper provides an outline of the Combat Vandalism Program formed in 1981 by BC Transit Security Services in Vancouver, BC, and highlights its success. The primary goal of the program is the prevention of vandalism through problem identification and community involvement.

Since the formation of the program, BC Transit Security Services records indicate a substantial decrease in many forms of vandalism. At the same time, the number of vandals apprehended and the amount of restitution recovered for damages has increased. BC Transit's examination of these and various other factors related to vandalism has determined that the Combat Vandalism Program is cost effective. BC Transit regards this success as the result of three elements of the program:

- Community involvement;
- Concentrated and coordinated investigation into vandalism incidents, particularly repetitive ones; and
- Creation of effective methods of dealing with young offenders, which enhance the deterrence of future incidents.

Formal liaison with police, the Vancouver School Board, and Parks Board Authorities—and the subsequent Joint Vandalism Task Force created—has proved invaluable in reducing vandalism on BC Transit properties, in schools, and in other areas of the community. We believe our report on this community effort will be of interest to those employed in the fight against vandalism.

Keywords: Vandalism, transit, prevention, community involvement, coordinated investigation, young offenders, deterrence, schools.

Introduction

According to articles published by the American Public Transit Association, "transit security" is defined as "the prevention of criminal acts perpetrated against passengers, employees, and property of transportation systems." Here, in British Columbia, our Attorney-General has publicly stated that "citizens, communities, and corporations must take a more active role in crime prevention because our thin police resources are primarily reactivist—confronting crime after the fact!"

At BC Transit, we also believe that transit security means much more than protecting physical assets and public funds. Transit security programs must go far beyond the industrial and corporate security programs provided to most industries because public transit moves so many people—176 million boarded passengers annually in Vancouver alone. A certain percentage of these persons will create security problems for our passengers and staff by committing offenses against regulations of the BC Transit Act, the Criminal Code, or both. Because public transit systems are obligated to provide safe and secure transportation to their clients, the major effort of transit security operations is aimed at improving the work environment of employees and their passengers.

BC Transit Security Services provides an integral link between the transit system and the 11 municipal police departments in the Greater Vancouver Regional Transit Area. We enhanced our objectives through several crime-prevention programs, each aimed at a specific type of transit crime.

BC Transit, like any other North American public transit system, fights an ongoing battle with vandalism. The direct costs for repairs and cleaning are easily measurable and substantial, but the spinoff effect if vandalism is allowed to persist and grow would far exceed the direct costs. Allowing vandalism (with visible signs of graffiti, slashed seats, and garbage) creates an atmosphere of lawlessness and permissiveness. This negative environment not only leads to an increase in vandalism but also deters people from using the transit system. The result could be a system unable to deliver its mandate to be "the people mover."

BC Transit has always taken pride in the condition of its fleet and facilities and ensured that buses are clean, graffiti are removed, and seats are repaired every day. To ensure that the public received the message that vandalism is not condoned, BC Transit has advertised a policy of prosecuting anyone caught vandalizing the Seabus, Bus, and Sky Train systems. In 1981, when we realized that a more concentrated effort was required, the Combat Vandalism Program was formed.

Community Involvement

The Combat Vandalism Program has several components, equally important to achieving the program's primary goal—the prevention of vandalism through problem identification and community involvement.

The \$100 Award

The first stage of the Combat Vandalism Program was the institution of a policy and of a \$100.00 reward for information leading to the conviction of persons responsible for willfully damaging transit property. Press releases, announcing the new program, attracted the attention of the media. Decals (fig. 1) were installed in every transit vehicle. At least two decals were conspicuously displayed in each vehicle.

Help Combat Vandalism

\$100 Reward

BC Transit is offering a \$100.00 reward for the information leading to the conviction of any person responsible for willfully damaging or defacing transit vehicles or property.

Notify Driver or Phone: 264-5464

Transit Vancouver Regional
Transit System

Figure 1—Decal installed in every transit vehicle, as part of the Vancouver, BC, Combat Vandalism Program..

Transit Employee Involvement

The most important element of a successful transit security system is the watchful eye of every transit employee. Therefore, the program was discussed in detail with union representatives, property-safety committees, and other employees. Bulletins were displayed at all work locations. Security Services personnel lectured about the program during initial training, refresher, and retraining courses for transit operators, transit supervisors, and train attendants. The response from transit employees was most enthusiastic.

Police and Justice System

Liaison with Crown Counsel helped promote awareness by Provincial Court Judges of the magnitude of the transit system's vandalism problems. With most judges cognizant of the issue, fines of up to \$500 and even jail sentences were imposed for persons convicted of vandalizing transit property.

Neighborhood Canvassing

Another effective technique was a visitor's calling card (fig. 2), requesting public assistance in neighborhoods where objects had been thrown at buses or SkyTrains and where bus shelters or SkyTrain stations were being vandalized. The cards request public assistance in identifying the vandals and provide a telephone number to call. The cards are distributed to businesses and private homes in a problem area and

**PLEASE
HELP US HELP YOU
"COMBAT VANDALISM"**

Damage is caused occasionally to your neighbourhood Bus, Bus Shelter, Skytrain and Skytrain Station. This costs you money in wasted tax dollars and can jeopardize the safety of passengers, pedestrians and motorists. Since it is impossible for us to patrol night and day, we solicit your co-operation as a law abiding citizen,

Please assist us by phoning the police without delay, if you see someone damaging Transit property.

For further information
please phone
BC TRANSIT SECURITY
at 685-7220

BC TRANSIT SECURITY
1296 Station Street
Vancouver, B.C.
V6A 2X3

Figure 2—Visitor's calling card distributed to businesses and private homes as part of the Combat Vandalism Program.

are well received. The problem normally ceases without the vandals being apprehended.

Public Relations

Whenever vandals are apprehended and particularly when convictions are secured, every effort is made to obtain publicity. The police have been helpful in communicating the information to the media. Notices of convictions are also published in our bi-weekly publication, "The Buzzer," which is distributed on all our transit vehicles. Reports are also published in our employee magazine, "The Transit Exchange." To accent the positive aspects of the Combat Vandalism Program, awards made to members of the public and our own employees for assisting in the apprehending of vandals are well publicized.

**The Combat
Vandalism Team**

In response to the increasing amount of incoming information on vandalism incidents, a special subsection was later formed within the Security Services Department. This subsection has the responsibility of coordinating all activities dealing with combating vandalism. It consists of selected Security Services members who have experience in plainclothes investigation, interdepartment training in the various aspects of BC Transit security procedures, working knowledge of BC Transit operations, experience in dealing with young offenders, experience in approaching and dealing with aggressive persons, and knowledge of the BC Transit Act and the Criminal Code of Canada—including the Young Offenders Act. Combat Vandalism members are required to act on security files involving vandalism to BC Transit property and have developed an efficient and cost-effective system.

Problem Identification

The increase in incoming information also resulted in better identification of problem areas. In addition to monitoring of these areas by security patrols, vandalism prevention through environmental design was implemented. Transit vehicles were designed

to provide greater visibility into the rear of the coach. Seat formation was altered to open rear corners, and mirrors were mounted to facilitate deterrence. Seats were also designed to deter vandals. Foam stuffing was replaced with stainless steel framed seats with thin pads that were much easier to replace and less encouraging to seat slashers.

Seat upholstery was changed to vinyl fabrics sprayed with graffiti-repellent GC 7500, which makes the upholstery much easier to clean. On Transit properties, pay phones that encouraged loitering and drug trafficking were relocated. Problem routes, neighborhoods, and schools were becoming more apparent, and community liaison strategies were subsequently developed to deal with them.

Liaison

The Combat Vandalism team established an effective working liaison with school authorities, police agencies, city workers, Parks Board workers, and other persons affected by vandalism. This contact has further encouraged a community effort aimed at vandalism prevention. This liaison has proved invaluable in helping to deter and solve vandalism problems affecting the Transit system. The majority of the vandals BC Transit deals with are young offenders—between 12 and 17 years of age. Liaison is based on commonality, in that all of the groups are affected by the same vandals. The Vancouver School Board spends more than \$780,000 per year on vandalism repair.

Combining information has added a great deal to the success of the Combat Vandalism Program. Combat Vandalism members are often called in by other authorities to help with vandalism problems. In an article published by "Prevention Magazine" in June 1987, Vancouver School Board Youth Assistant Peter Leask indicated that intervention in the schools by BC Transit's Combat Vandalism team has contributed to a reduction of vandalism in the schools.

Because graffiti are a repetitive form of vandalism and often distinct to the offender, investigation often leads to apprehension of offenders who cause damage to numerous Transit vehicles and other public properties. The Combat Vandalism team views graffiti as a community problem affecting all aspects of the community through costs for cleanup (in taxes and consumer and user costs), social damage (breakdown in community spirit), increased vandalism (created by an atmosphere of lawlessness), and the costs of legal processing (police, courts, and so on).

As long as graffiti remain a problem in the community, they will remain a problem on the Transit System and vice versa. Sometimes, offenders who have been dealt with by BC Transit and who no longer commit offenses on Transit property may still be active in other parts of the community. Therefore, they remain a problem for BC Transit in that they inadvertently encourage other youths to commit offenses that spread onto the transit system. In recognition of the need to apprehend vandals of non-Transit property, Combat Vandalism members work together with these other community victims to apprehend and deter offenders. BC Transit's Combat Vandalism program creates an awareness of the extent of vandalism in the community, encouraging education for prevention and promoting the benefits of community involvement.

The Combat Vandalism team has been instrumental in helping to set up a "City of Vancouver" Anti-Vandalism Task Force. We looked at the success of the "City of Calgary's Vandalism Task Force," which gave encouraging support to the formation of a similar task force in Vancouver. Our efforts at creating awareness in the community include reporting on the extent of the vandalism problem, the annual costs to the community for vandalism repair, the seriousness and repercussions of vandalism crimes, preventive measures, effective deterrent measures, the importance of immediate vandalism repair, resources available for witnesses and victims to contact, and the need for community action. These efforts will all be magnified by the efforts of the Task Force.

Investigation

All information dealing with vandalism to BC Transit properties is collected and collated by the Combat Vandalism team. Concise, updated records of all incoming information are kept to be used in investigation and by the court. This information is received from a variety of sources including Transit employees, members of the public, school authorities, police, and Transit Security personnel. Information is analyzed, and investigations initiated.

One of the investigative techniques used by Combat Vandalism members is to conduct undercover security patrols on Transit vehicles. These patrols, conducted as random vandalism checks, are carried out with the full knowledge of Transit employees and with their encouragement. Frequently, patrols are part of an ongoing investigation into a vandalism incident. Vandals apprehended in the act are either arrested on the spot or, if identification is sufficient, youths may be informed that follow-up will be conducted in their school, at their home, or in both places within the next week. Plainclothes security action has a considerable impact on other passengers in the vehicle and, in particular, on the operator.

Other methods of follow-up investigation include consistent checks of Transit properties, schools, and other areas frequented by youths. When dealing with repetitive vandalism (such as graffiti tags), photographs of the damage must be maintained for court or when restitution is sought for damages to many properties by one offender. Information gathered from checks helps indicate repetitive graffiti vandalism, even the school attended by the offender, routes used, his or her direction of travel, time of day, and so on. We have often found the identity of the offender from this information. The established liaison with the schools then enables the investigator to approach the offender and deal with the problem.

Deterrence of Young Offenders

In establishing a working liaison with school authorities, we agreed to deal with young offenders in the schools primarily on an informal basis. Young offenders are often identified through investigation, as opposed to being caught in the act. In these cases, BC Transit proceeds informally through the schools, and deterrence of the offender is supported by the school and parents.

Combat Vandalism members prefer to deal informally with young offenders because avoiding the court process may be essential to the deterrent effect on the youth. Youths who have not been through the courts are more eager to avoid such action and, thus, are more committed to diversion and deterrence. Those youths who have been through the courts often do not care if they go through it again because they

have realized the limitations of the courts in dealing with juveniles. Discretion is necessary in choosing between formal and informal proceedings. Criminal charges are sometimes the only alternative.

Legal authorities and guidelines for the program are provided by the Criminal Code of Canada, the Provincial and Federal Young Offenders Acts, and the Provincial BC Transit Act. BC Transit's informal process for young offenders includes interviews with parents by security investigators. In the past few years, BC Transit has been successful in recovering more than \$10,000 through parental interviews regarding vandalism by their children. Although not a large amount of money has been recovered, the parental support of BC Transit's approach and discipline of the juveniles by parents have been significantly rewarding. Youths are also encouraged to take responsibility for their actions by paying their own restitution. If this is agreed upon by parents, the youths are supervised on a monthly payment schedule. This arrangement also serves as a deterrent because a youth working to pay off a bill for damages is less likely to commit another similar offense than is a youth whose parents pay. Youths are educated about repercussions of continued vandalism and how their irresponsible actions directly and indirectly cost the entire community. An important concept to give young offenders is that public property is their property, and that money spent on the repair of vandalism could be better spent on improved community recreation facilities. Follow-up ride checks with the young offender, by plainclothes security, are conducted to ensure that antisocial behavior has been curbed.

Cost Effectiveness

The Combat Vandalism Program has been very successful over the past six years. In 1987, the number of windows broken by rocks and other objects was down 70 percent compared with 1981, and the present rate of slashed seats and graffiti is down 40 percent over the same period. In Vancouver, during 1980, the frequency with which seats were slashed, windows broken, bus shelters damaged, and graffiti written was the highest in Canada.

BC Transit's examination of the various factors related to vandalism has determined that the Combat Vandalism Program is cost effective. The following factors indicate the Program's total impact on the reduction of vandalism costs to the corporation from a long-term perspective:

1. Substantial decreases in many forms of vandalism.
2. A 56 percent increase in the number of vandals apprehended.
3. A 23 percent increase in the amount of restitution.
4. Prevention of potential vandalism incidents through public awareness of plainclothes security on Transit vehicles.
5. Prevention of potential vandalism by associates of offenders dealt with in the schools.
6. Prevention of vandalism encouraged in the community through effective liaison.

7. Prevention of vandalism because of effective education about costs and repercussions.
8. Prevention of vandalism as a result of public and Transit employee's concern and enthusiasm for deterring vandalism.
9. Deterrence of further vandalism incidents by apprehending offenders and dealing with them effectively.
10. Increase in vandalism reports from the public because of the reward program and Combat Vandalism team intervention.
11. Reduction of indirect costs of vandalism, such as:
 - Loss of revenue factor—potential riders may decide on alternative transportation because of a negative view of the Transit system.
 - Time loss of an employee—as a result of injury sustained from untrained personnel attempting to prevent a vandalism incident or being injured by thrown objects.
 - Increased medical costs and higher insurance premiums.
 - Costs related to low employee morale.
 - Reduction of work load for response-oriented road supervisors.

Summary

Vandalism is a costly problem that has become accepted by too many large institutions. The exact costs of vandalism to a community are difficult to determine because they are often absorbed in various maintenance budgets. Experience has shown that most maintenance budgets do not break down vandalism as a separate identifiable cost. In addition, the community may be affected through social damage, such as a breakdown in community spirit and the perceived atmosphere of lawlessness. These negative effects are significant and not directly measurable.

Working with the community, inside and outside of BC Transit, has proved successful in increasing apprehension of offenders and the prevention of vandalism. BC Transit believes that awareness is the key to prevention, and that combatting vandalism is a community project.

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SECTION III

**PREVENTION OF VANDALISM TO
ARCHEOLOGICAL, RECREATIONAL, AND
RAPIDLY DEVELOPING RURAL SITES**

National Goals for Protecting Archeological Sites

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Abstract

Although specific responsibility for protecting significant archeological sites on Federal lands and sites that may be affected by Federal projects lies with each Federal agency, various historic preservation laws charge the Secretary of the Interior to undertake leadership and coordination in the Federal archeology program. The Department of the Interior has sought to provide guidance to its bureaus and other agencies by implementing regulations, improving information exchange, publishing technical information, and developing training programs. These efforts for general program improvements are coordinated by the Departmental Consulting Archeologist through the National Park Service, Archeological Assistance Division. This paper describes what is being done to protect archeological sites under each of these activities and demonstrates how they fit into national goals for the Federal archeology program. This discussion refers to recommendations made in the recent General Accounting Office report, "Cultural Resources: Problems Protecting and Preserving Federal Archeological Resources." The results of efforts thus far show that cooperation between law enforcement and cultural resources personnel and publication about the nature and fragility of archeological resources must be two central elements if plans to curb vandalism are to be successful.

Keywords: Archeological sites, archeological, Federal lands, cultural resources, Department of the Interior, law enforcement, publication, information exchange.

Public archeology has made significant contributions to historical understanding of the American cultural past. This contribution has been possible primarily because public archeology is based on an anthropological approach that emphasizes the relations between groups of people through time and space; only through collecting, analyzing, and interpreting archeological data on a broad scale can meaningful statements be made about whole societies in the past. The American public has recognized this. Although never before have such hard questions been asked about cost effectiveness and project efficiency of archeological work, the current concern for improving public benefit from archeological research is also unprecedented. A better informed public is pressing for increased protection and preservation of archeological resources. Vandalism of archeological properties is, thus, widely understood as a direct assault upon the national heritage.

The nature of archeological sites as property also compels a unique definition of vandalism in this context. Preservation of archeological resources is understood as a direct contribution to our knowledge of the history and development of national identity. This concept is true both in terms of the facts we learn through collecting archeological data and the perceptions about ourselves, given the ways we care for the remains of the past so as to be able to create myths usable in the present. Vandalism of archeological sites, therefore, cannot be defined similarly to other crimes against property. The social costs of archeological site vandalism cannot be measured in the same terms as those developed for the built environment. Recent Congressional and public concern that call for solutions to the problem are based on this awareness.

We need look no farther than the national historic preservation program for solutions. The definition of archeological site vandalism and the mandate to prevent it are contained in the body of historic preservation law, which is the common basis for implementing Federal agency archeology programs. The objectives of this presentation are to demonstrate how Federal archeology is structured such that nationwide goals to prevent vandalism are possible, to describe how information on vandalism is being collected and reported, to address the areas in which actions are being taken, and to discuss national goals for archeological site protection.

Although the several laws constituting the national historic preservation program each make specific requirements of the Federal Government, the responsibility of individual Federal agencies has always been to conduct their own programs. Beginning with the 1906 Antiquities Act, archeological site protection was defined as a jurisdictional and management concern of the respective public lands agencies.

That any person who shall appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which the said antiquities are situated shall upon conviction, be fined...or be imprisoned...(Section 1).

That permits for the examination of ruins, the excavation of archeological sites, and the gathering of objects of antiquity upon the lands under their

respective jurisdictions may be granted by the Secretaries of the Interior, Agriculture, and War...provided, that the examinations, excavations, and gatherings are undertaken...with a view to increasing the knowledge of such objects... (Section 3) (Public Law 59-209, 6 U.S.C. 431-433).

These phrases are taken somewhat for granted at present, but the history of the enactment of the Antiquities Act shows that management of archeological resources and increasing knowledge about the past for public benefit were codeveloped concepts (Lee 1970). Initial concerns for nationally significant archeological sites prompted private interests and museums to sponsor legislation to proclaim landmarks and set aside such lands in perpetuity. Less well known is that Federal managers, especially the Commissioners of the General Land Office, recognized early that no effective program to prevent vandalism was possible unless the individual agencies were given direct authority to implement activities according to their respective missions. That is, simply declaring archeological sites as significant and establishing boundaries around them would not provide protection, let alone increase the public benefit by having done so. Thus, a kind of cultural resources management program for archeological sites on public lands was envisioned from the outset.

A second important aspect of the national preservation program is that the importance of agency coordination to achieve stated policy has always been recognized. As early as 1927, the office of the Departmental Consulting Archeologist within the Department of the Interior was created to help develop and give direction to the Government's involvement in archeology. This action amounted to institutionalization of the Antiquities Act as a feature of Federal historic preservation. Subsequently, some of the responsibilities of the Secretary of the Interior to provide leadership and coordination in the Federal archeology program were delegated to the Departmental Consulting Archeologist (U.S. Department of the Interior 1985). The Historic Sites Act of 1935 codified the role of the Department of the Interior in program coordination.

It is hereby declared that it is a national policy to preserve for public use historic sites, buildings and objects of national significance for the inspiration and benefit of the people of the United States (Section 1).

The Secretary of the Interior,... through the National Park Service, for the purpose of effectuating the policy expressed in section 1 hereof, shall [among other things]:

- (e) Contract and make cooperative agreements with States, municipal subdivisions, corporations, associations, or individuals ... to protect, preserve, maintain, or operate any historic or archeological building, site, object, or property used in connection therewith for public use, regardless as to whether the title thereto is in the United States,
- (j) Develop an educational program and service for the purpose of making available to the public facts and information pertaining to American history and archeological sites, buildings, and properties of national significance (Section 3).

The Secretary (of the Interior), in administering this Act, is authorized to cooperate with and may seek and accept the assistance of any Federal, State, or municipal department or agency, or any educational or scientific institution, or any patriotic association, or any individual (Section 4) (Public Law 74-292, 16 U.S.C. 461-467).

Federal policy is reiterated in the National Historic Preservation Act, particularly in the need to provide program leadership.

It shall be the policy of the Federal Government, in cooperation with other nations and in partnership with the States, local governments, Indian tribes, and private organizations and individuals to-

- (1) use measures, including financial and technical assistance, to foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations;
- (2) provide leadership in the preservation of the prehistoric and historic resources of the United States and of the international community of nations (Section 2) (Public Law 89-665, 16 U.S.C. 470).

For archeological resources, the program coordination responsibility of the Secretary of the Interior is established in the Archeological and Historic Preservation Act.

The Secretary shall coordinate all Federal survey and recovery activities authorized under this Act and shall submit an annual report at the end of each fiscal year to the Committee on Interior and Insular Affairs of the House of Representatives and the Committee on Energy and Natural Resources of the Senate indicating the scope and effectiveness of the program, the specific projects surveyed and the results produced, and the costs incurred by the Federal Government as a result thereof (Section 5c) (Public Law 93-291, 16 U.S.C. 469 et seq.).

Finally, the specific problem of archeological site vandalism was addressed in the Archeological Resources Protection Act of 1979 (ARPA) (Public Law 96-95, 16 U.S.C. 470aa-11). To do so, the Act lays out unequivocally the two salient concepts of the national preservation program. They are to require Federal agencies to conduct their own protection programs and to place leadership and coordination responsibilities for the Federal archeology program with the Secretary of the Interior. They are most clearly stated in Section 2, "Findings and Purpose;" Section 3(2), definition of the term "Federal land manager;" Section 10, "Regulations; Intergovernmental Coordination;" Section 11, "Cooperation with Private Individuals;" and Section 13, the report to Congress.

Clearly, then, the Federal archeology program is required to prevent vandalism in a national program to be carried out by the respective agencies in their particular jurisdictions. Preservation of the national heritage in archeological resources may not be

subordinated to a profusion of varied definitions of vandalism or understandings about the nature of significant archeological properties.

To conduct a national program, an effort must be made to gain improved understanding about vandalism of Federal sites. How is this being done, what is known, and how can reporting on vandalism inform development of national goals? Currently, the four major ways vandalism information is being collected and reported are through programmatic reviews; periodic requests for information collection; information exchange systems; and technical assistance publications.

Programmatic reviews are undertaken to examine specific concerns about the results of Federal efforts to protect archeological resources. Two of the most important recent reviews were conducted by the United States General Accounting Office (GAO) and the Office of Technology Assessment (OTA), both of which are Congressional agencies. The OTA review was based on a series of workshops convened to assess the extent to which available technologies are being used to assist preservation efforts. Protection of archeological resources from deliberate destruction was determined to require public education, application of security technologies, and law enforcement (U.S. Congress, Office of Technology Assessment 1986). Security technologies include cultural resources inventories, protective barriers, purchases of sites, interpretive signs, propagation of vegetation, and permanent installations. Law-enforcement activities include patrols, informants, sting operations, passive surveillance, and electronic monitoring. The GAO review was undertaken to examine the extent to which organized looting on Federal lands and inadequate curation of archeological collections are problems. Looting was determined to be a serious problem made more so by limited staff able to provide protection and the need to improve site-inventory efforts. As solutions, GAO recommended that agencies take steps to improve documentation of looting incidents and cumulative damage to archeological sites; develop survey plans for protection and management strategies; and develop joint efforts to analyze looting information and conduct undercover investigations (U.S. Congress, General Accounting Office 1987).

The principle of periodically requesting information from Federal agencies about vandalism is the result of recent broadening of the scope of the Secretary of the Interior's "Report to Congress on the Federal Archeology Program" to better implement the requirements of Federal law. The report is based on information collected via an annual questionnaire, which was redeveloped through a cooperative effort by several Federal agencies. For the first time, in fiscal years 1985 and 1986, comprehensive statistics on vandalism were obtained. They demonstrate the limited extent to which vandalism is being discovered and prevented through law enforcement. They also demonstrate that although the numbers of reported vandalism incidents are increasing, prosecutions and convictions of violators have remained about the same. Techniques used by Federal agencies to improve archeological site protection have been many and varied. The report describes efforts ranging from direct intervention (such as fencing, patrols, site monitoring, and surveillance) to education programs, enhanced interpretation, and general interagency cooperation (U.S. Department of the Interior 1989).

Information-exchange systems provide ways to share current knowledge and access programs that may serve to enhance antivandalism efforts. Federal agencies, particularly public land-managing agencies in the Rocky Mountain West and Southwest, have already undertaken cooperative information exchange to improve their law-enforcement activities. Computerized bulletin boards that report incidents, operational task forces, and interagency participation in public awareness programs are among the most frequent kinds of regionally oriented information exchanges. On the national scale, an information clearinghouse on reported vandalism cases that have resulted in prosecutions is maintained by the Archeological Assistance Division of the National Park Service. It is called the LOOT clearinghouse (Listing of Outlaw Treachery) and contains summary information about the cases plus individuals to contact who can provide detailed accounts (U.S. Department of the Interior 1988b).

Technical publications report directly on programs and provide technical assistance on successful ways to address the problem of archeological vandalism. The Archeological Assistance Division undertakes three technical publications, each with a separate purpose, format, and frequency. *Federal Archeological Briefs* provides current information on the several aspects of federal archeological activities, and each quarterly issue is oriented toward a topic of concern. A recent issue on looting and vandalism discussed amendments to ARPA, a program of law enforcement through public education by the Portland District of the U.S. Army Corps of Engineers, and the LOOT clearinghouse (U.S. Department of the Interior 1988a). The *Archeological Assistance Program Technical Briefs* series provides technical assistance oriented toward programmatic issues. A recent example is the technical brief that presented the structure and function of "Arizona Archeology Week" as one way to improve public awareness of archeological resources, enlist public support to improve their protection, and demonstrate the public benefit from preservation activities (Hoffman and Lerner 1988). The third kind of publication includes technical assistance documents of monograph length that treat specific problems, such as the calculation of archeological costs, or provide in-depth examination of programs, such as the strategic overview of the Federal archeology program (Games and others 1986, Sm'rt'h and others 1988). The objective for providing detailed guidance on calculating costs, for instance, is to assist Federal land managers to exercise their option for assessing civil penalties for violations of ARPA, which can be based on the archeological value of damaged resources, as well as costs of restoration and repair.

These kinds of information collection and reporting about archeological vandalism have helped set goals for antivandalism efforts. The results of efforts thus far show that cooperation between law enforcement and cultural resources personnel and public education about the nature and fragility of archeological resources must be two central elements if plans to curb vandalism are to be successful. Actions taken so far by Federal agencies include development of regulatory guidance, training, and case-specific projects. The ARPA regulations were amended to clarify the role of archeological value in assessments of civil penalties, and Department of the Interior supplemental regulations to ARPA define hearings and appeal procedures (36 C.F.R. Subpart 7B). Subsequently, the USDA Forest Service and the Tennessee Valley Authority concluded memorandums of agreement by which they can seek Interior administrative assistance in hearings on appeals. Federal agencies also responded to advise Congress about impacts that amendments to ARPA might have, especially

the lowering of the felony threshold and including the intent to damage an archeological resource as a violation. Broader training programs, especially those that include both law-enforcement and cultural-resources specialists to improve communications among them, have begun. A 12-hour course titled, "Archeological Protection Training," provides an overview that will assist managers and specialists in evaluating the current status of their programs, particularly in personnel-training needs, and inform specialists about effective ways to implement archeological protection activities. The course is conducted several times a year in regional locations by the Archeological Assistance and Employee Development programs of the National Park Service. Finally, many case-specific actions have been taken that are based on agency programs and interagency cooperative activities (U.S. Department of the Interior 1987). Many of these are described as the direct experience of law-enforcement actions, especially when additional steps appeared needed. An example is Operation SAVE, which is a multifaceted program developed by the Oregon State Office of the Bureau of Land Management to realize more effective use of existing funds and staff in site protection (Schalk 1986). Its components included public education initiatives, employee training, and enforcement operations.

Nationwide efforts in archeological resource protection are based on the body of historic preservation law, which places the responsibilities within each agency's mission and jurisdiction, but also provides for leadership and coordination efforts through the Secretary of the Interior. National goals for protection, therefore, include both effective law enforcement and public education that shows how our national heritage is threatened by vandalism of archeological sites. Only through this dual approach will the individual kinds of vandalism that result in damage to archeological properties be countered.

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Life Beyond Inventory: Cultural Resource Site Protection on National Forest Lands in Oregon

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Abstract

After years of intensive cultural-resource inventory on National Forest lands in Oregon and the Pacific Northwest, Federal land managers and archeologists now face the difficult problem of how to protect this rich and varied cultural-resource base from artifact thieves. This effort requires overcoming a range of misconceptions about the nature and extent of artifact theft and developing realistic site-protection strategies that mesh with a broad spectrum of National Forest users. This paper provides information about archeological theft in Oregon and offers general recommendations for developing effective site-protection strategies.

Keywords: Archeology, cultural resources, public lands, artifact thieves, site protection, management.

Introduction

A decade's worth of intensive, compliance-oriented cultural-resource inventory on National Forest lands in Oregon has identified an immense and fragile resource base spread over vast areas of public land. Despite strong legal mandates to protect cultural resources, the USDA Forest Service has only recently begun to undertake this task in the face of severe problems with looting of archeological sites and artifact theft. Site-protection efforts have been hampered by a lack of communication among agency land managers, archeologists, and the public about the nature and extent of illegal artifact collecting and site digging in Oregon and the Pacific Northwest. The magnitude of the artifact-theft problem in this region remains largely undocumented and is frequently overshadowed by the severe theft problems in the American Southwest. As a consequence, archeological theft, until very recently, has failed to capture the attention of the public, media, and Federal land managers (Schalk 1988).

This paper is an attempt to bring attention to site looting and artifact theft in Oregon and, by extension, the Pacific Northwest. We will highlight the nature and extent of cultural-resource destruction with examples from central Oregon archeological theft cases; examine some of the prevailing myths and popular perceptions about artifacts and artifact collecting in this region; and offer general recommendations for developing effective strategies for site protection.

The data presented in this paper, however, are based on our familiarity with several recent legal prosecutions in Oregon, and we have not yet had time to extensively analyze and synthesize our field data. Thus, our inferences and conclusions are preliminary, and comparisons with other regions of the United States await more complete information and analysis. We also recognize that the information will sound familiar to many archeologists. Archaeological theft is a new source of concern to many agency land managers and the public in the Pacific Northwest, however, and to this latter audience this paper is primarily directed.

A Historical Perspective From Central Oregon

Imagine, for a moment, the theft of one of the largest prehistoric caches of chipped stone artifacts in the Pacific Northwest by a group of people using heavy machinery over several days to illegally excavate some 500 obsidian projectile points from an archeological site on National Forest land. Consider that these people then collectively bargained for the rights to further excavate the site, eventually selling it to the highest bidder. Include in this scenario a prominent private Western art museum, which offered to hide the artifact collection from the inquiries of the Federal Government, thus allowing the necessary time to make a regional and national network of artifact buyers and sellers aware of its availability for sale. Further consider that 250 of these artifacts were sold to a Government agent for \$6500 during an undercover sting operation, though their street value might have been triple this figure.

This situation faced the Forest Service in 1984. Awareness of archeological-site looting and artifact theft as a major resource problem within the Region was nonexistent at that time. Popular belief within the agency held that artifact looting was largely confined to the American Southwest. Most of the evidence of collecting and digging in Oregon was attributed to weekend hobbyists. Although a few archeologists and law-enforcement officers called attention to the problem in Oregon (for example, Newman 1971), little substantive evidence of these activities was documented in legal incident reports or citations. Because a working relation between agency

law-enforcement agents and archeologists was not yet formed, few reported incidents of looting were investigated. A similar situation prevailed within other agencies, though the Bureau of Land Management had attempted several unsuccessful legal prosecutions for illegal digging in Oregon and Idaho (Grayson 1976, Rogers 1987, Schalk 1988).

Despite strong skepticism and disbelief, the potential magnitude of the China Hat case pressed the agency into action. The cooperative efforts of special agents and archeologists were necessary to convince Forest Service officials to attempt a large sting operation to acquire the stolen artifacts and to initiate criminal prosecution. A District Ranger was placed in the difficult position of supporting a law-enforcement operation never before attempted in this Region of the Forest Service. At risk was about \$50,000 of "buy money," as well as the potential loss of Agency credibility if the venture failed. Fortunately, the sting resulted in a successful arrest and prosecution, the recovery of the stolen artifacts, and a jail sentence for Phillip George Fields; this felony conviction was the first in Oregon under the Archaeological Resources Protection Act (ARPA) of 1979.

The China Hat case was viewed by the Forest Service as both a victory and a worst-case scenario. Certainly, for the agency and local public, it marked the beginning of an awareness of a major resource-protection problem; to the artifact thieves, it was only a minor setback. Perhaps the most disheartening implication was that the hobby collector and occasional weekend vandal were not the only sources of artifact theft and cultural-resource depredation on public lands in Oregon. Extensive interviews with Fields and other principals in the China Hat case revealed that organized thieves operating with a designed criminal intent to steal artifacts to sell and trade were a major source of artifact theft in central Oregon.

Shortly after the China Hat case was resolved in 1985, a steady flow of information about looted archaeological sites and the buying and selling of artifacts began to come to Forest Service officials. Several artifact traders were found to be operating out of local businesses in Bend, Oregon. Artifact diggers were sent to specific forest locations to illegally excavate sites. Sentries—usually persons posing as recreationists—were posted during illegal excavations. Chipped stone artifacts from several forest sites were sold abroad for unknown amounts of money. Regional and local newspapers and various artifact trading magazines closely followed the brewing archeologist-collector controversy in central Oregon (for example, Attig 1987, Boehme 1986, Dietz 1987, Krause 1987, Monson 1987). Finally, to add drama to controversy, a local man was wounded in a gunfight over the "ownership" of forest sites.

At the same time, several other National Forests became involved in cases of site looting and artifact theft, one centering on a successful sting operation and felony (ARPA) prosecution of another central Oregon man who excavated and sold artifacts from an American Indian burial site in the Hell's Canyon National Recreation Area (Oregonian 1986). The most recent case in central Oregon has resulted in the seizure of more than 2,800 artifacts, a felony ARPA conviction, and a jail sentence for Bradley Owen Austin (Oregonian 1988). As a consequence of this legal case-work, archeologists and special agents are now working in close alliance, and the administrative, investigative, and forensic roles of each are better defined. Equally

important, U.S. attorneys are convinced that archeological site destruction and artifact cases are worth pursuing.

Popular Myths and Perceptions

Despite these recent successes, a few ARPA convictions obviously have not eliminated artifact theft in central Oregon and the Pacific Northwest. Serious efforts to combat the problem have only just begun, and some misperceptions exist among agency personnel and the public about the nature and extent of artifact theft in this region. If land managers and the public are to be convinced that archeological resources will continue to disappear at an alarming rate unless effective programs for site protection are developed, these myths must be debunked.

- Casual recreationists and weekend hobby collectors are the source of most artifact theft in Oregon and the Pacific Northwest.

A commonly shared belief among land managers and the public is that artifact collecting is a harmless recreational activity. After all, Indian artifact collecting is a time-honored tradition throughout the American West (Bassett 1986, Clewlow and others 1971, Rogers 1987). Hobby and casual artifact collectors are found in any community, especially those adjacent to National Forest, Bureau of Land Management, and other public lands (Nickerson 1962). Their collecting activities are closely intertwined with other types of outdoor recreation such as hunting, fishing, and "four-wheeling." Arrowheads and other Indian artifacts are collected as a source of personal enjoyment. Popular perceptions are that most people primarily surface-collect and that most of the illegal digging was done before the 1960's, when people were less sensitive to the resource and unaware their activities were illegal.

Data collected during recent Oregon artifact-theft investigations, combined with the abundant evidence of illicit digging of archeological sites throughout the State, suggest that much of the artifact collecting in this region is neither casual nor benign. Our research attributes much of this looting and artifact theft to intensive hobby and commercial artifact collectors who stand to make a profit from artifacts they feel are free for the taking on public lands. Completely aware of the legal consequences of their activities, these people are loosely formed into extensive trading networks which traffic artifacts such as chipped stone tools, stone bowls, and sagebrush sandals and mats. Their activities are deliberate and carefully planned.

For example, we know from surveillance conducted between 1987 and 1988 that several individuals planned their archeological site predations with the aid of geological atlases stolen from State universities and public agencies. These individuals had in their possession sufficiently detailed information about the daily whereabouts of Forest Service archeologists to lead them to recently inventoried and marked archeological sites (see Stuemke, this volume). Much of their illegal digging occurred at night, often with the aid of false-bottom tents and specially manufactured digging tools. Their activities are ongoing. Central Oregon artifacts are featured in regional and national artifact magazines and catalogues (for example, Dietz 1987).

In larger perspective, a recent archeological-theft census conducted by the Regional Office in Portland shows that several National Forests in the Pacific Northwest—including the Deschutes, Gifford Pinchot, Ochoco, Umpqua, and Wallowa-Whitman—

share a recurrent artifact-theft problem, of which a significant portion undoubtedly is attributable to commercial enterprises (Keyser 1988).

- An extensive commercial market for Indian artifacts does not exist in the Pacific Northwest.

A related myth, shared even among archeologists, is that most Indian artifacts found in the Pacific Northwest have little or no monetary value because this region lacks the spectacular and abundant pottery and ornate artifacts of the American Southwest. Again, archeological-theft casework suggests otherwise.

Recently, an individual dealing Indian artifacts from the trunk of his car offered a local secondhand store owner in Bend, Oregon, a sizable artifact collection worth thousands of dollars. Concerned about the legality of this activity, the shop owner notified Forest Service special agents. Though brazen, this activity is not unusual. Classified ads in local newspapers offering to buy and sell collections are frequent. Artifacts from archeological sites in the Pacific Northwest and Oregon are freely discussed in Indian artifact books and magazines (for example, Dietz 1987, Strong 1969). Indian artifacts are traded at local flea markets and auctions and at antique trade shows in large metropolitan areas such as Portland and Seattle.

During our investigations, we obtained many Indian artifacts catalogs ranging from small, nicely printed pamphlets to roughly done, mimeographed price lists. These included information about a variety of artifacts from Oregon and elsewhere throughout the Pacific Northwest. Several large, central Oregon artifact collections obtained over years of collecting were turned into healthy "retirement" incomes. (In one instance, several 3-foot by 5-foot frames were sold for \$25,000.) In a newspaper interview with a central Oregon artifact collector, which focused on the recent seizure of 2,800 artifacts from a Bend man by the Forest Service, the merchant complained that the agency was causing a hardship on his artifact business (Preso 1988).

Not all artifact trafficking is this visible. Some artifact dealers we contacted indicated that their transactions often involve less-than-scrupulous people in an atmosphere similar to back-alley drug deals—a parallel that is hardly surprising because many of these people have drug-related problems with the law (The Oregonian 1988). At the opposite end of the artifact-theft spectrum, many collectors are respectable community members, and thus their artifact transactions are largely hidden from public view. Information about the original provenance of spectacular artifact collections housed in their private homes or Western-art museums is vague and probably misleading because the artifacts are invariably attributed to archeological sites on "private land" or else are reported as "loaned" by other collectors or relatives. Obviously, this echelon of the commercial artifact network is difficult to penetrate.

During an arranged interview with a convicted central Oregon artifact thief, Federal investigators were informed of an international artifact dealer on the East Coast who was willing to travel to Oregon on a moment's notice to purchase illegally obtained artifacts. With some effort, the dealer and his business intentions were confirmed, but the company existed only as a post office box. The person and his offer were real, but the business was a front.

In sum, a commercial demand exists in Oregon and the Pacific Northwest for prehistoric Indian artifacts. The market is similar to (and is likely part of) the market in operation in the American Southwest (see Green and Davis 1981, McAllister and others 1984). A wide variety of people are involved in the artifact business here, ranging from professional "diggers" to traders and upscale buyers and collectors. The trade features artifacts of stone, bone, shell, and perishable materials, which all have a monetary value based on esthetic quality, age, uniqueness, and perceived or real scientific value.

- The public is either unaware of or does not fully understand the laws protecting archeological resources.
- Artifact collectors are unaware of or do not fully understand the laws protecting archeological resources.

In the 1980s, however, ignorance of the law does not extend to serious collectors and commercial thieves. To both groups, antiquities laws are merely a challenge and a bothersome obstacle to overcome in hunting for artifacts (Bassett 1986, Green and Davis 1981, Rogers 1987). From our investigations, we know that serious artifact thieves in this region are completely aware of the Antiquities Act and ARPA. The China Hat case investigation (which included a 2-year undercover operation) revealed that those involved in the destruction of the China Hat site went to great trouble to research the 1979 ARPA. One individual consulted an attorney about the applicability of ARPA to a specific forest site. After being advised of the possible consequences, he chose to continue with his illegal activity. Phillip George Fields was in possession of photocopies of both the Oregon State statutes and the Federal law (ARPA) on artifact collection when he was arrested.

In two other unrelated Federal seizures, agents recovered stolen antiquity signs specifying both the sensitivity of cultural sites and the associated penalties for disturbance. Agents were told that such signs often enhance the value of the artifact collection because they prove that the artifacts are not fakes—a source of very great concern among artifact collectors (for example, Fogelman 1988). These signs are also marketable items by themselves. Perhaps this legal awareness was best stated by a central Oregon artifact collector described above who was concerned about the impact the Forest Service would have on his artifact business.

I don't support him (the individual under federal indictment) at all and I don't support what he did. It seems insane to me for collectors to support that man just because **they don't agree with the law**. It gives the whole hobby a bad image! (emphasis ours) (Bend Bulletin, Feb. 19, 1988)

This defiance of State and Federal antiquities laws is also amply demonstrated in various nationally available Indian artifact collector books and magazines (for example, Fogelman 1988). These documents frequently include articles and letters bitterly complaining about archeological preservation laws and the archeological community's "conspiracy" to stop their collecting activities. Ironically, they also rationalize the scientific importance, legitimacy, and "public benefits" of private artifact collecting.

Feigning ignorance of the law is a clever and sometimes effective ploy of both serious and commercial artifact collectors. In contrast, ignorance of antiquities laws currently does exist among the general public who have little or no interest in artifacts, collecting, or Indian prehistory. Thus, mobilizing public support is difficult, and frequently both judge and grand jury must be informed of both the illegalities of artifact collecting and the loss of scientific information to the American public when artifact theft occurs. Perhaps, this sector of the public should be the focus of our greatest educational efforts.

- Professional archeologists, amateurs, and artifact collectors share common interests and goals.

The perception that professional archeologists and amateurs have the same interests and goals is both myth and a defense mechanism for artifact collectors. The perception is especially bothersome when strategies for site protection are being developed because these definitions and roles are difficult for land managers and the public to understand (see also Nickerson 1962, Rippeteau 1979). Clearly, professional archeologists legitimately collect artifacts for scientific study and interpretation. Bona fide avocationalists or amateur archeologists work within this same scientific and resource-conscious framework under the guidance of professional archeologists.

Hobby and commercial artifact collectors find artifacts to enhance their personal artifact collections and their pocketbooks. Collectors may have an interest in prehistory to the point that it does not impinge on their hobby activities. Their perceptions of Indians and prehistory frequently are naive, racist, and hopelessly out of date with contemporary archeological knowledge (for example, Strong 1969).

The distinctions among professional, amateur, and hobby/commercial collectors are often blurred to the public. This confusion has served to maintain the acceptability of artifact collecting and trafficking. The situation has also made Agency officials reluctant to pursue archeological theft cases both for fear of credibility loss within the community and the loss of important archeological-site information from the public.

Confusion between professional and amateur archeologist is partly attributable to a campaign of misinformation by the hobby and commercial collecting community. A popular idea put forth in the various artifact magazines and newspaper articles is that professional archeologists and artifact collectors are working together to learn about prehistory and to preserve the physical remains of the past (Fogelman 1988). Certainly, avocational archeologists have made and reported significant archeological discoveries, but the contributions of artifact collectors are few. Most of the known collectors in central Oregon work independently of any professional guidance, input, or dialogue. Revealing the location of an artifact-rich site obviously works against their best commercial and hobby interests, unless it otherwise enhances either their personal reputations or the value of unreported artifacts they removed from the site and intend to sell privately.

Unfortunately, archeologists also confuse legitimate amateurs with hobby and commercial collectors and sometimes naively involve them in their research pursuits. Being taken into an archeologist's confidence is a reliable way to maintain public

credibility and an effective way to have personal collections examined and appraised for sale and trade (Davis and others 1986). In this light, amateur archeological societies and volunteer programs are an effective and important way to communicate the values and goals of archeology to the American public (King 1982), but membership must be carefully screened and activities closely monitored.

The distinction between professional and collector is further blurred by other myths. One popular rallying cry is that archeologists only hide artifacts in far-away universities and museums—where boxes are ultimately lost, artifacts are stolen or destroyed and, in any case, the public never gets to see them (Fogelman 1988). This myth serves to confirm that collectors are caring for important artifacts better than the public agencies charged with this responsibility. Another justification is that the archeological community is only protecting its own selfish interests by picking on artifact collectors. Other frequent justifications are that "Forest Service employees have some of the largest collections around" (Attig 1987), that if collectors do not recover artifacts someone else will, or worse, the Forest Service or other agency will destroy them during other project activities.

Some truth is contained in this finger pointing, and we encourage the archeological community to pay it serious attention. Our point, however, is that the Forest Service and other agencies must begin to make distinctions between the sincere and supervised amateur and the hobby and commercial collector (see also Nickerson 1962, Rippeteau 1979). Federal agencies show a strong tendency to categorize all people as "general forest users" or "recreationists," regardless of interests, circumstances, or socioeconomic situation. Similarly, the Forest Service has tended to think of any person with a general interest in prehistory and artifacts as an amateur or avocational archeologist. These stereotypes frequently veil the real interests and activities of forest users. Any strategy for archeological-resource protection developed should be broad enough to be effective against a broad spectrum of forest users and archeological-site abuser groups.

Cultural Resource Site Protection: A Suggested Course of Action

This account of recent artifact-theft cases in Oregon and discussion of resource myths provides the background for discussing workable strategies for protecting cultural resources. Our experiences are limited to Oregon and the Pacific Northwest, and we are not proposing that they necessarily apply to every National Forest in the United States. We hope, however, that some of these comments will prompt recognition of the nature of the problem in other regions of the country.

Nearly a decade since the passage of ARPA in 1979, the complexities of the site-protection problem and its solution have clearly changed. The artifact thief, aware of ARPA and its implications, has become smarter; the market has become harder to pinpoint; and the resource has become more valuable to collectors seeking monetary gain. We can no longer effectively deter pothunting with the 1970's attitude of the innocent collector, the informed amateur, and the "smoking gun."

Given the severity of archeological theft today in Oregon and the Pacific Northwest, the popular term "vandalism" is a misnomer and does not adequately describe the kinds of resource crimes that are being committed. We suggest that, to much of the public, vandalism applied to archeological sites simply means weekend surface ar-

tifact collecting or tracing over a rock painting with chalk. They see it as analogous to painting graffiti or carving on a public building, or worse, destroying the facilities inside. This kind of destructive behavior is a nuisance and expensive, but the damage is often reversible.

In reality, cultural-resource "vandalism" is much more serious. Fragile cultural sites are being systematically destroyed every day by artifact thieves. This activity is irreversible, and the resource loss is immense. Archeological site destruction is not only a crime against property, it is a crime against people; for it is the graves, campsites, and sacred places of American Indian peoples that are being despoiled. Terms such as "site looting," "artifact theft," "grave robbing," "site defacement," and "destruction" may be more effective to use than "vandalism" when conveying the problem to the American public and land managers.

Semantic changes are easy to make: actually combatting archaeological theft is not easy to do. As other archeologists (for example, McAllister and others 1984, Nickerson 1962, Rippeteau 1979) have effectively argued, Federal agencies in this region first must make more careful distinctions among the (1) casual artifact hunter or innocent recreationist who finds and collects an artifact, (2) uninformed and misguided artifact collector (the truly interested amateur or avocational archaeologist), (3) serious hobby collector (who constantly surface collects, despite the laws, but only infrequently digs), and (4) commercial collector (who both surface collects and digs). Only by clearly recognizing the intentions and behavior patterns of each group can there be any hope of developing realistic protection strategies that strike a balance between public education and rigorous law enforcement efforts. Ultimately, these group classifications should supersede the generic category of "forest recreationist"—a label which punishes the recreational majority by placing them under an aura of suspicion while the serious artifact thieves escape unnoticed.

Once these various archeological site abuser groups are isolated, strategies for site protection can be developed. Public education and interpretation should be directed toward both the casual and uninformed collector. Agency personnel should not hesitate to issue citations and warnings to repeat offenders when necessary.

The serious hobby collectors and commercial artifact thieves require more rigorous law enforcement efforts because public education will likely have a negligible effect. Sophisticated site surveillance and investigative techniques are mandatory. Interviews with a wide range of informants strongly indicate that surveillance must be conducted at night, on weekends, and on Federal holidays rather than during regular work hours. This would include regular and publicly visible patrols of "hot spots" on the Forests. Cameras, ground monitors and sensors, and periodic checks by Agency personnel involved with timber sale planning should augment these efforts.

When the problem becomes as severe as it is in central Oregon, sting operations, the use of confidential informants, long-term undercover operations, and purchases of stolen artifacts may be necessary. Because artifact thieves view the world with distorted vision, a good deal of creative thinking will be needed. In the central Oregon cases, special agents presented seemingly unbelievable scenarios to both manager and archeologist—extensive regional and national (and international!) ar-

tifact networks, dollar values of artifacts, false-bottom tents for concealed excavations, and bidding and gunfights over the "ownership" of forest sites. However, most of these unbelievable scenarios were true, and investigations in these areas were very productive.

Current training in cultural-resource protection and law enforcement must be commensurate with the situation in the field; the frequency with which we can expect to find an artifact thief standing knee-deep in a pothole in broad daylight during everyday field work is low. We believe that more training might be spent on understanding the nature of the collecting mentality, the artifact market and network, the types of people involved, and the related judicial process. Training should develop investigation, forensic, and public communications skills, rather than emphasizing the enforcement skills needed at a potential crime scene.

Eventually, this training should help change a popular perception among many land managers, law enforcement personnel, and some archeologists that public education and patrolling the forests for artifact thieves are the most viable solutions to all types of artifact theft. Through these efforts, archeologists should also come to realize that site protection laws such as ARPA are not fatally weak; hard casework will eventually set enough precedents to make site-protection laws viable legal tools. Better training and more optimism are sorely needed among all three groups if we are to become effective protectors of cultural-resource sites on public lands.

We are entering a new era of cultural resources management. Literally millions of inventory dollars later, the Federal agencies are faced with the immense task of protecting a vast resource base. How successfully this will be accomplished rests on overcoming a wide range of misconceptions about the value of North American Indian artifacts and the character of those people intent upon stealing them. The future is not especially bright; as we become more sophisticated, so do the thieves of time. But, hopefully, through a combined effort of rigorous public education and law enforcement, the field of players will be narrowed to the point that their activities can be controlled and eventually stopped.

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Vandalizing and Looting of Archeological Sites on Indian Lands: The Navajo Reservation, a Case Study From the Southwestern United States

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Abstract

The literature provides limited insight into looting, other than to identify it as a serious problem, but both the literature and the experience of archeologists and land managers suggest that there are patterns in the kind and location of archeological sites most likely to be looted. This background suggests two working hypotheses. The sites that are most likely to be looted are well known (for example, appear in the archeological literature or are printed on readily available maps), and they are located in isolated areas with low likelihood of the looters being discovered.

These two working hypotheses are examined in a sample of ten prehistoric archeological sites throughout the Navajo Reservation in the Four Corners area of the Southwestern United States. The ten sites were visited and examined for evidence of looting. The results of this preliminary study indicate that the working hypotheses only partially reflect the likelihood that a site will be looted. All of the sites in the sample are well known, but only four of the ten were looted. Sites that are very hard to get to were not looted. Sites, no matter how readily accessible, that did not offer isolated areas where a looter could dig with little chance of being observed were not looted. Further examination of these variables may lead to insight into locating the sites that are most at risk.

Keywords: Vandalism, looting, Indian lands, archeological sites, predictors.

Introduction

Vandalism—or more precisely, looting of archeological sites—is an extremely serious problem in the Southwestern United States (General Accounting Office 1927) lands, including the Four Corners region. The problem is not limited to Federal lands: A regionwide outbreak of looting is occurring, but the only available estimates of the amount come from Federal and Indian lands (General Accounting Office 1987).

Federal agencies estimate that between 30 percent (Spear 1987) and 100 percent (Munoz 1987) of archeological sites with structural remains in the region have been subjected to some degree of looting. The Bureau of Indian Affairs (BIA) (which plays a role of "pseudo-Federal land manager" on Indian lands), however, estimates that only about 2 percent of the sites on Indian lands have been affected by looters (Mills 1987). Given the magnitude of the looting problem in the Four Corners area and the fact that the BIA appears to be no more effective in combating looting than the Federal land-managing agencies, this figure seems ridiculously low (U.S. House of Representatives 1988).

There are, however, good reasons for suspecting that looting has generally been less common on Indian lands than it has been on other lands—Federal, State, and private—in the region. First, Indians live on the reservations; their homes are located even in the most remote portions of a reservation. Thus, looters may perceive that the risk of discovery is greater on Indian lands than it is on Federal land generally. In addition, Indian reservations are generally isolated, underdeveloped areas, which can be exceedingly hard to get around in, so looters have a hard time getting to and from target sites. Furthermore, the archeology of many reservations is more poorly known than on surrounding lands. Looters appear to prefer the better known sites because they tend to be larger, more spectacular, and more likely to produce quantities of marketable artifacts. These factors have combined to minimize (relative to nearby Federal lands) the amount of looting on Indian lands.

A variety of factors suggest that looting is likely to become an increasingly severe problem on Indian reservations in the future. Looters recognize that many of the "prime" targets on Federal land have been looted to the point that they are likely not to be worth the looters' efforts. At the same time, Federal agencies are increasing their efforts to enforce the Archaeological Resources Protection Act (16 U.S.C. 470 *aa et seq.*), making looting on Federal lands, theoretically at least, riskier. Looters recognize that the very isolation of Indian reservations makes the real likelihood of discovery low. Furthermore, reservation residents appear reluctant to report trespassers in a timely fashion (particularly ones who may be armed). Finally, because of the complexity of overlapping and sometimes conflicting jurisdiction, the likelihood of prosecution, if an alleged looter is apprehended, may actually be lower than on neighboring Federal lands (Navajo Nation 1987).

So far, these conditions have not resulted in a dramatic outbreak of looting on Indian lands, but looting (on the Navajo Reservation at least) is clearly on the rise. If effective and forceful steps are not taken to deal with this growing problem now, looting will soon be every bit as severe on Indian lands as it is elsewhere in the Southwest (Navajo Nation 1987).

The Navajo Nation is currently developing a program to deal with looting of archeological sites on Navajo lands. The first step is to develop reliable data on how severe looting is now on the reservation. This paper reports the results of a pilot investigation of looting on the Navajo reservation.

The Navajo Nation covers roughly 25,000 miles in Arizona, New Mexico, and Utah. Its 18,000,000 acres cover an area larger than West Virginia. Of 190,000 Navajos, 172,000 live on the reservation (Navajo Nation 1988). The average population density is about seven people per square mile.

More than 30,000 known archeological sites are on the reservation. Given the amount of area surveyed to date, an estimate of at least 1,500,000 sites on the reservation seems reasonable, and as many as 3,000,000 are possible. These 1.5 million or more sites range from small artifact scatters to huge pueblos with hundreds of rooms. Perhaps one percent of those sites are large ones with structural remains and cliff dwellings.

The Tribal Rangers, who are charged with patrolling archeological sites (as well as enforcing other resource and fish and wildlife laws, inspecting livestock, and so on) are assigned patrol areas that average 1500 square miles (Navajo Nation 1988)¹. Given the number of known and suspected sites on the reservation and the huge area that has to be patrolled, clearly efforts to protect sites must be very selective. Accordingly, we must have some idea of what sorts of sites are most likely to be looted.

Although looting is a "hot" topic, information on looting is scant. The General Accounting Office (1987) concluded that no reliable figures exist on how many sites have been looted. So we cannot turn to the literature to develop data on the types of sites most likely to be looted. Primary data must be collected.

Working Hypotheses

The literature provides little insight into looting other than to note that it is a serious problem. But we do know, or think we know intuitively, something about the behavior of looters. Based on five years of experience with the Illinois Department of Conservation, two years with the Navajo Nation, and innumerable discussions with archeologists, law-enforcement specialists, and managers with State and Federal agencies throughout the Midwest and Western United States, I have observed several patterns of behavior.

First, although serious looters may not believe what they are doing is wrong, they do know that they are engaging in an illegal act. However low the probability of being caught, prosecuted, and convicted may be, looters would just as soon avoid this trauma and the expenses associated with it. so they take steps to avoid capture. Casual collectors exhibit quite different behavior because they often do not realize that picking up artifacts is wrong, nor do most of them realize that it is against the law.

¹Because of cuts in the FY 1989 budget, each Ranger must now patrol 2,500 square miles.

These observations lead to two working hypotheses regarding looting of sites: the sites most likely to be looted are well known, and they are in isolated areas where the likelihood of discovery is low; and the sites most likely to be casually surface-collected are easily accessible.

These hypotheses were examined by looking at ten sites on the Navajo Reservation. The sites were selected because they were well known; for example, they occur in the archeological literature or their locations are printed on United States Geological Survey (USGS) maps. The third major source of information, the "amateur's" grapevine, could not be tapped, so sites from this source could not be considered. Sites were selected all over the reservation. They ranged in accessibility from visible from a major paved highway to accessible only to the serious and well-conditioned hiker.

Each of the ten sites were visited and inspected. Care was taken to note any evidence of looting or casual collection of artifacts. The sites were recorded as deemed appropriate by mapping sites showing evidence of disturbance. All sites were photographed.

Results

Allentown Chacoan Outlier The Allentown Chacoan Outlier is located in Whitewater Canyon, near Allentown, Houck Chapter (Apache County, Arizona). The Allentown Outlier has a large great house and a great kiva; it is the center of several smaller, contemporary satellite communities. The Allentown Outlier is not located on a quadrangle map, but it is well known in the literature.² Published maps are accurate enough that any reasonably diligent person who can read a map could locate the site.

The site is on a low, wooded mesa. It is not visible from the graded dirt road that runs in front of the mesa. A dirt road runs through between several houses and up the bluff and runs around the site, which is not visible from the houses. The mesa top is used by area residents as a wood-cutting and gathering area. The immediate area around the site does have some modern trash, indicative of recent activity in the area, probably the Navajo woodcutting.

The Outlier proper shows no evidence of pot hunting or casual artifact collection. The only evidence of disturbance is the remains of excavation trenches from an archeological research project early in this century. With the exception of those trenches, the Allentown Outlier is in essentially pristine condition.

Bidahochie

Bidahochie is a large, Pueblo IV, open-air ruin located in the general vicinity of the Bidahochie Trading Post, Indian Wells Chapter (Navajo County, Arizona). Bidahochie is not identified on a USGS quadrangle map, but it does appear in the literature. The story of the "discovery" of Bidahochie by professional archeologists clearly shows that the site has been well known to collectors and looters for all of this century, and it is clearly still known to them.

² Because many of the sites identified in the literature can be relocated by any reasonably diligent individual from the maps contained in the publications, citations are not provided to that literature. The author will consider providing citations to this literature to individuals with bona fide research interests.

A graded dirt road runs in front of the mesa on which the site is located. A two-track road runs up to a well immediately at the base of the mesa in front of the site. Bidahochie could be identified as a rubble mound from the graded dirt road by a reasonably sophisticated observer but is not really visible from the road. The s'rte actually runs down to the spring, so that anyone who is at the spring must recognize that they are in the vicinity of an archeological site.

Bidahochie has one of the most complex and impressive ceramic assemblages I have ever seen. It includes Hopi yellow wares, Zuni green wares, including green lead-glazed wares and the distinctive Bidahochie polychrome. All of these are esthetically pleasing. The yellow wares demand top dollar in the antiquities trade. (I suspect that the same is true of the green wares and Bidahochie polychrome, but I cannot document this.)

Bidahochie has been heavily looted. Virtually the entire western edge of the site has been intensively potted. In all, 120 pot holes were recently counted on the site. The most recent looting appears to have occurred about five years ago and resulted in the conviction of two pot hunters in 1984.

Cornfields Ruin

Cornfields Ruin is a large, open-air, Pueblo III-IV ruin, in the vicinity of the Cornfield Chapter House, Cornfield Chapter (Apache County, Arizona). A BIA road runs through the eastern edge of the site. Several houses are within a couple of miles of the site. The houses are far enough away that they can be seen, but people moving about them cannot be seen. Cornfields Ruin is located on a small hill. The road runs through the low, eastern portion of the ruin. The western side of the ruin, the location of the main part of the midden, is completely hidden from the road. The s'rte does not appear on a quadrangle map but is known in the literature.

Cornfields Ruin has many small pot holes in the western midden area. The relative amount of damage to the Ruin appears to be limited.

Kit'Siili

Kit'Siili ruin is a large, Pueblo III "long house" on a high mesa in Tachee Chapter (Apache County, Arizona). The ruin is accurately located on a USGS quadrangle sheet. We were taken to the site by several archeology enthusiasts from the area, which suggests that the site is fairly widely known.

Because of its location on a mesa, it is quite inaccessible. Reaching the site requires a strenuous climb up the mesa top of over a mile but no serious rock climbing. Anyone reasonably dedicated and in good condition could reach Kit'Siili without risk.

Kit'Siili shows no signs of looting or casual collecting. A few items of modern trash were noted, indicating that it does see some continuing use.

Poncho House

Poncho House is on the Chinie Wash, north of Mexican Water, Red Mesa Chapter (San Juan County, Utah). Poncho House is a Pueblo III cliff dwelling, contemporary with Cliff Palace at Mesa Verde. It is in a large rock overhang at the base of a 600-

foot-high cliff. It can be reached by following a steep trail down the face of the cliff or by coming up Chinie Wash and crossing the wash at the site.

Poncho House is identified as a "cliff dwelling" on a quadrangle map and is well known in the literature. It was once one of the most spectacular ruins in the Southwest—at least rivaling Cliff Palace. Poncho House yielded a wide array of material remains when excavated in the 1920's, including textiles and basketry. (Poncho House is so named because a garment resembling a poncho was recovered during excavations there.) The presence of well-preserved textiles makes Poncho House a particularly inviting target for looters. Prehistoric textiles are extremely rare and are consequently of great value.

Poncho House is one of the most thoroughly looted sites in the region. Walls have been mined through. Virtually every room has at least one pot hole dug into it. Most of the looting stopped some years ago, and no evidence was found of recent excavation although the site clearly continues to be visited regularly. These visits may result in casual collecting of artifacts off the surface of the site but not in excavation for remains.

Rock Point Cliff Dwelling

Rock Point Cliff Dwelling is a small site near Rock Point, Rock Point Chapter (Apache County, Arizona). The site is visible from BIA Route 12 and is identified on the USGS quadrangle map as a cliff dwelling. Although the site is visible from the road, it is far enough from the road and hard enough to see that a visitor would have to both know what to look for and be looking hard to notice it.

Inspection of the site indicates that it has been visited repeatedly, but no evidence was found of any pot hunting or looting. Names and slogans are carved into the sandstone of the overhang. The carvings include names that are obviously Navajo as well as names that may or may not be. In addition, names associated with place names, such as Waco, Texas, clearly indicate visitors from off the reservation. The site is devoid of artifacts. My inspection located no prehistoric artifacts. Modern artifacts indicate that the site is a spot used occasionally for picnicking.

The graffiti constitute real vandalism but no actual harm to the scientific value of the site. The site has been heavily collected, which is a more serious deleterious effect. Surface collection can damage, and frequently has totally obliterated, archeological sites on the Navajo reservation. On the other hand, no one has dug in the site, and any subsurface remains are still intact. Surface collection and continued casual use may eventually destroy the site.

Standing Fall House

Standing Fall House is a Pueblo I cliff dwelling located on the northern end of Black Mesa in Chilchinbito Chapter (Navajo County, Arizona). Standing Fall House is not identified on a quadrangle map, but it is known from the literature.

Standing Fall House is at the end of a narrow box canyon, which is a tributary of a larger wash that drains southward into the interior of Black Mesa. A visitor can get within about two miles of the site by following dirt roads and then following the main wash (which requires a 4 X 4 vehicle). From about two miles from the site, visitors must proceed on foot. The last three-quarters of a mile is up the side canyon, which

has steep walls and is heavily overgrown. This last part of the trek in is extremely difficult going, and only the most determined will make it all the way to the site.

Standing Fall House has suffered no apparent vandalism or looting. The surface of the site has few artifacts, fewer than expected. A recent professionally run research project mapped the site and did a total surface pick-up. This research project no doubt accounts for the absence of artifacts; no casual collector would attempt the trek into Standing Fall House merely to gather a few shards off the surface.

Swallows Nest Ruin

Swallows Nest Ruin is a small Pueblo III cliff dwelling in Tsegi Canyon, Kayenta Chapter (Navajo County, Arizona). Swallows Nest Ruin is on a USGS quadrangle map and is known in the literature.

The site can be reached by vehicle because a dirt road runs past its base. Given conditions in the Canyon, a 4 X 4 would likely be required to drive all the way to it much of the year. The site is visible from the road and from that entire area of the Canyon.

The Canyon is used by Navajos to graze sheep, and sheep herders are present in the Canyon throughout the summer. Visitors must drive past a Navajo residence to enter the Canyon.

Swallows Nest Ruin has been partially excavated, but the excavations occurred in the early part of this century. The excavations are still open. No other disturbance to the site is apparent. Artifacts are on the surface of the site in fair numbers, suggesting that casual collecting is not occurring here.

Wide Ruin

Wide Ruin is a large Pueblo III open-air pueblo in Wide Ruin Chapter (Apache County, Arizona). Wide Ruin is on a quadrangle map and is well known in the literature. The Navajo community of Wide Ruin is named for the site. Wide Ruin is among the better known sites on the reservation.

Wide Ruin can be easily reached. A paved road runs almost to the site. The last half mile or so is on a graded and maintained dirt road that runs directly past the site. A Navajo residence is at the edge of the site.

Wide Ruin has been vandalized and looted, but not intensively. One recent incident led to a criminal investigation, which has yet to produce results. The most serious damage to the site appears to have been caused by the original Wide Ruin trading post, which quarried rock from the ruin to use for construction of the post and all of its out-buildings and facilities.

Analysis

Based on the hypotheses detailed above, the crucial site characteristics are accessibility and isolation (table 1).

Accessibility

Accessibility refers to the ease with which a site can be reached. The accessibility of the sites ranged from easy to extremely difficult. Values were assigned to accessibility ranging from 1 to 5. The sites that were most accessible were assigned a 1, those that were least accessible were assigned a 5. The values are integer not ratio

Table 1— Summary of factors affecting boters

Site	Accessibility	Isolation	Looted
Allentown	1	4	No
Bidahochie	2	3	Yes
Cornfield Run	1	3	Yes
Kit'Siili	4	5	No
Long House	2	3	No
Poncho House	3	5	Yes
Rock Point ruin	2	3	No
Standing Fall House	5	5	No
Swallow's Nest Ruin	2	3	No
Wide Ruin	1	3	Yes

measures. Although the difference between a 1 and a 5 value cannot be precisely specified, the standards were as follows: a 1 was assigned to a site that could be driven to, and a 5 was assigned to a site that could only be reached with strenuous effort.

Isolation

Isolation was used to measure the likelihood that a person would be observed on a site. Isolation was measured from 1 to 5 on an integer scale: 1 indicated a high likelihood of being observed, and 5 indicated virtual absence of such a likelihood. Although isolation does generally correlate positively with accessibility, some easily accessible sites have portions that are very isolated. Accordingly, these two variables are viewed as independent.

The presence of looting or casual collecting was noted, but no attempt was made to quantify the degree of activity. This variable was measured in a purely nominal fashion.

Nine of these sites are (or were, before being looted) of clear scientific importance. The tenth site, Rock Point Cliff Dwelling, is of indeterminate scientific significance. Furthermore, all of the nine sites are of a type that would likely yield artifacts of value in the antiquities trade. Three of particular significance in this regard are Allentown, Bidahochie, and Poncho House.

Four of the ten sites displayed evidence of looting. All four were easily to moderately accessible and all were moderately to very isolated. Only one of the unlooted sites was more accessible than the four looted ones. All of the unlooted sites were at least as isolated as those that had been looted.

Although no pattern is readily apparent from these data by themselves, a fairly straightforward explanation suggests itself for why some of the unlooted sites are still essentially untouched. The inaccessibility of Kit'Siili and Standing Fall House probably explain the absence of looting at those sites. Allentown and Swallows Nest Ruin are quite accessible and fairly isolated once a visitor arrives at the sites, but they can be easily reached only by passing occupied Navajo homesites. Rock Point Ruin is accessible but visible from the road. A person on the site is unlikely to be visible

from the road, however. The evidence of use as a picnic area may explain the lack of looting. The site is clearly used, and a looter might be unwilling to risk an encounter, particularly at a site that has no artifacts on the surface. To suggest whether excavation is likely to yield items of value. At this point, I can suggest no good explanation for why Long House displays no evidence of looting.

Summary

Looters appear to target sites that are fairly accessible; sites that are very inaccessible, no matter how isolated, are left alone. The looted sites are all at least moderately isolated. But not only must the site be isolated, the access itself must be isolated; passing close to occupied homesites seems to be avoided. Finally, sites that display continuing use are avoided.

Although I think I can explain why the unlooted sites are unlooted, I believe the data presented here are insufficient to draw any firm conclusions about the hypotheses presented above, and I do not believe the data warrant refining those hypotheses at this time.

Before these hypotheses can be deemed to have been tested, much more data must be collected. Such data gathering will continue on the Navajo reservation during the coming years. In addition to looking at sites that are on maps and in the published literature, we will begin looking at sites that are known but not on maps or in the literature.

Furthermore, we must carefully reexamine the basic measures applied to isolation and accessibility. These qualities were evaluated by impression for this paper. These impressions were carefully evaluated for consistency, and I am confident that the values assigned are consistent among the sites I considered. They are the judgments of a professional archeologist and cultural resource manager, however; I have no way of knowing whether my assessments of accessibility and isolation are even remotely like those that a looter would make.

Finally, one factor not considered here, which surely must be a consideration for the professional looter, is the likelihood of a site yielding a quantity of valuable artifacts. How the looter assesses this factor is likely to be very different from how a professional archeologist would. As research progresses into looting, a way must be found to take this factor into account.

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Rock Art Vandalism: Causes and Prevention

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Abstract

Personal observation suggests that vandalism of rock art has increased dramatically over the last ten years. This vandalism includes removal of rock art elements, obliteration, and damage. Because rock art is a nonrenewable, extremely fragile cultural resource, preventing such vandalism is extremely important to the archeological community. Drawing on examples from New Mexico and other locations of rock art, this paper examines why people deface rock art and the practices implemented to minimize such activity.

Reasons for rock art vandalism range from appreciation of the artistic nature of the art, through a desire for financial gain, to a psychological drive to destroy or damage what others consider precious. Means of controlling the activity discussed include scientific documenting of the rock art, public education, concealing rock art locations, and physically restricting access. The paper concludes by examining the degree of success of these procedures, and the outlook for the future.

Keywords: Rock art, vandalism, archeology.

Introduction

The term "rock art" may conjure up images of sculpture or architecture, but to the archeologist the term refers to representations and geometric forms scribed, abraded, or painted on rock by pre-industrial peoples. This art form is unique, often well executed, and extremely fragile. For the archeologist, it often provides data that opens a window into the lifeways and world view of its creators. The art may realistically portray scenes of resource acquisition, battles, and so forth; the art also often shows such aspects of culture as religious practices, spiritual views, or cosmology. That rock art affords glimpses of the sacred dimension has been pointed out by Schaafsma (1980,1985).

Although the best known examples of such art are the Paleolithic cave paintings from southern France and northern Spain, many representations are known in the New World. The New Mexico Laboratory of Anthropology site file contains evidence of significant concentrations of rock art in New Mexico (see also Schaafsma 1972). This paper focuses on New Mexico, but much of what is said applies equally to other rock art throughout the United States, Canada, and Mexico.

Archeologists distinguish two basic types of rock art: imagery created by pecking, scratching, incising, grinding, or abrading the rock, known as petroglyphs (fig. 1); and pictures created by painting on the rock surface, known as pictographs (fig. 2). The paint used by prehistoric artists was produced by mixing ground pigments of red ochre, iron oxide, talc, kaolin, or clay in solutions of animal grease, fish eggs, oil, urine, or tree resin (Clifton 1979). Occasionally, the two forms (petroglyphs and pictographs) are found together in the same or associated panels (fig. 3).

Rock art is extremely fragile and easily damaged. It is also nonrenewable. Depictions or writings on rock being executed today or in the recent past are not accepted as rock art by the professional archeological community. Destruction of rock art causes irretrievable loss of both scientific knowledge and of part of our artistic heritage. This paper attempts to pull together ideas from many sources on how to stop and repair rock art vandalism.

Types of Vandalism

Rock art vandalism may be either intentional or unintentional. Unintentional vandalism is caused by site visitors and recorders, who damage art by applying substances to it, brushing against it, dragging measuring tapes across it, or otherwise touching the very fragile surface of the art. Such attrition is especially a problem with rock paintings.

Intentional vandalism to rock art sites includes removal and attempted removal of the rock itself, obliteration by applying paint or producing modern graffiti over the art, and intentional damage and destruction of the art elements. These acts differ in motivation and in the damage they do. Only a small amount of literature is available on the motives of rock art vandalism in the United States. This is a major gap because such motives must be understood before vandalism can be stopped. Further research in this line is needed.

Thieves often try to remove rock art by chiseling around it and prying the rock face containing the panel off the larger rock. The attempt often results in failure; the rock face fragments, and the surface is completely destroyed. The rock used for art is



Figure 1—Petroglyphs of snake, hunter, and bison with pecked brand on lower right.



Figure 2—Pictographs of abstract designs in the Guadalupe Mountains.

often friable, and this, along with the presence of internal fracture planes and the vibration resulting from attempted removal, causes the rock to disintegrate. Other methods of attempted removal include drilling holes around the panel with rock drills, and using rock saws or chain saws to cut out rock art elements. Extensive damage of this sort has occurred at the Three Rivers site in Otero County, New Mexico.



Figure 3—Petroglyphs of horsemen pecked over pictograph abstract designs.

Some thieves who steal rock art panels may be motivated by appreciation of the beauty and artistic merit of the rock art. But rock art theft is a two-tiered system: thieves and the "hobby collectors" they supply. The system is driven largely by avarice. At least some of both types wish to become wealthy through the acquisition and sale of rock art panels. Panels from the Albuquerque West Mesa have been sold as far away as New York (Schaafsma 1988). Such hobby collectors lack respect for the rights of others. What they are trying to do is steal the artistic heritage that belongs to all of us and our descendents, and restrict access to these art treasures to themselves and their close associates. The collectors also lack an appreciation of the importance of the context of the rock art. In situ rock art is one of the few artistic products from prehistory that can be viewed as it was originally meant to be. Moreover, the context relates to function. The association of elements is often important in understanding what a particular figure meant. Rock art thieves, like pothunters generally, destroy all of these data by removing the artifact from its archaeological context. When such activity occurs on Federal or State land, the activity is theft of public property. But rock art sites are protected only to the extent Federal, State, or local laws apply.

Rock art is also often damaged or obliterated by graffiti, which may be done in the same way as the art itself—by pecking, for example—or by spray paint or smoke. Sometimes, later art obliterates earlier art (fig. 3). In the Gobemador Canyon area of northwest New Mexico, extensive panels of ancient puebloan rock art has been overlain with Navaho rock art dating back at least a couple of hundred years. In surrounding areas of New Mexico, Navahos have recently been implicated in vandalizing other ancient pueblo rock art. Those containing images of katchinas have been especially hard hit. The aim of this appears to be the removal of all vestiges of non-Navaho native American occupations in the hotly contested area (Schaafsma 1988).

Similar territorial motives may have been operative in prehistoric times as well. Occasionally, whole panels of pseudo rock art may be created by such modern graffiti specialists. Where graffiti obscure pre-existing rock art, it is clearly detrimental. Even when it is only associated with rock art, it degrades the artistic feeling associated with the area. It reduces the integrity of the archeological site and lessens its scientific value. (See, for example, the partially obscured brand in the lower right of figure 1.)

The creators of the graffiti appear to be motivated by a desire to have their names, messages, or both displayed prominently. Often, this desire appears to be associated with an attempt to show that their talent is equal to the original artist's. That others would prefer and have the right to experience the art unmodified by modern day Michelangelos apparently does not matter to creators of graffiti.

The third major class of rock art vandalism is outright destruction. It may be the result of carelessness as, for example, when someone allows campfire smoke to cover rock paintings in a rock overhang. It may be from lack of caring about the art, as when art motifs are used as targets for firearms practice (fig. 4). Or, it may be the result of a desire to destroy the art, either because it is the product of another religion or cultural background, and thus "sinful" or "pagan," or simply because others value the art.

People sometimes go to a lot of trouble to destroy rock art. A case comes to mind where a person worked hard on a panel of art near Moab, Utah, to scrub paintings off the rocks. The motivation for such activities is difficult for me to understand. Predicting who will commit such destructive acts and when and where it might happen is likewise impossible. Reaching individuals likely to do damage and convincing them not to is extremely difficult.

Repairing Damage, Prevention, and Education

Efforts to protect rock art from damage caused by vandals is comprised of two major classes: restoring art after vandalism, and preventing such vandalism from occurring. Although restoration is important, it is not completely satisfactory; rarely can the art be restored to anything like its original condition.

Restoration includes physical and chemical methods. Experiments have been done with both damaged pictographs and petroglyphs to determine which techniques of restoration are the most successful (BLM 1969, Ralph and Sutherland 1979). Physical means include scrubbing smoke and other covering substances off the art, applying agents to harden the rock, and, rarely, refastening fragments of rock. Chemical means include treating vandalized surfaces with cleaning agents to remove contaminants, bring out the artwork, or both, so that it is more visible.

Physically removing such damage as scratched or incised lines has been successful by rubbing or smoothing the surface with a stone as hard or harder than the vandalized stone. This method has the drawback of removing the rock surface. Over time, it will result in loss of the artwork. In the short run, the rubbing removes the patina of the stone, resulting in a lighter colored area. The desert varnish (patina) has been restored by applying a boiled mixture of water, soil, and local sand; sometimes with the addition of manganese oxide to darken the mixture. The mixture is baked into



Figure 4—Bullet holes in pecked horseman and circular design. Note faint older design to right of horseman.

place with a blowtorch (BLM 1969). The long-term effect of this treatment on the rock is unknown. The treated rock may not build up patina at the same rate as surrounding untreated rock, and the difference may begin to show later. It is likely that the heat alone would cause damage—such problems as spalling and fractures, may occur.

Chemical removal of graffiti has been attempted since the 1970's. Oven-cleaning agents have been applied and sponged off a day later. This method successfully removes lead and rubber-based paint (BLM 1969), as well as smoke. Other agents such as mixtures of dry-cleaning chemicals (for example, xylene and naccanol) have been used to remove felt-tipped-marker lines (BLM 1969). Such chemicals have been used with brushing, either with soft or wire brushes. Finally, commercial paint strippers have been used to remove paint (Clifton 1979, Ralph and Sutherland 1979).

Studies by Clifton (1979) and Ralph and Sutherland (1979) suggest that industrial chemicals and paint strippers have little, if any, effect on pictograph pigments. The studies also indicate that graffiti paints more than 2 years old cannot satisfactorily be removed. Scrubbing may dim older paint, but removing any significant amount is difficult. Research by the Canadian Rock Art Research Association suggests this is due to the overlay of deposits on the paints through time (Clifton 1979, Harrington and Whitney 1987, Lundy 1977, Ralph and Sutherland 1979). Both Clifton (1979) and Ralph and Sutherland (1979) stressed the importance of wearing protective gloves, masks, and clothing when using hazardous chemicals.

Chemical agents, used with wire or other hard brushes, can result in the deterioration of the rock surface and the loss of the rock art. The rock surface must be stable enough to withstand the treatment. Even when the surface is firm, brush contact

with the rock is undesirable. All solvents must be water-soluble and must be tested on a section of rock art where failure of the procedure will cause minimal loss. Brushes have been used to remove residues from cracks and pores in the rock (Ralph and Sutherland 1979). As with the re-creation of patina, the long-term effect of such treatment of the art and rock has not been determined, but is probably destructive. Ralph and Sutherland (1979) report, however, that Dr. Dan Barker, a geologist with the University of Texas at Austin, has indicated that reactions should be immediate, and that the low humidity in the Southwestern United States would nullify long-term reactions. Long-term effects in more humid regions are unknown.

Methods of removing graffiti from rock art have been disseminated through professional publications such as those cited. Research into these methods is a continuing need, especially on why paints applied less than 2 years ago can be removed fairly easily, and older paints are difficult or impossible to remove; why some paints are easier to remove than others of the same age; why some means of removal are more effective than others; and what are the long-term effects on the art of the various removal methods. Analysis by a paint chemist of paint samples collected before removal is attempted may be necessary (Ralph and Sutherland 1979).

Vandalism is prevented through protection and education. Protection may mean erecting physical barriers, using legal means, or concealing the location of the art. Nondisclosure of sites has recently become the focus of much attention by archeologists in various Federal and State agencies. Professional archeologists have become increasingly aware that their professional publications identify rock art locations that are subsequently vandalized.

Physical barriers have been occasionally erected to prevent access to rock art. Barriers include chain-link fences, iron bars, and plexiglass sheets. All of these barriers may be successful in the short run in preventing casual depredation, but their visibility and the challenge they present to serious vandals may lead to extensive damage to the art when the barrier is breached. Only by posting guards could such entry be prevented.

These physical barriers have an additional drawback as well. Their presence lessens the artistic value of the art. Put simply, the art is not as appealing when it is locked away from the spectators. The context of the art is partially lost as a result of the intrusive, protective elements.

A better alternative is the use of natural barriers. One suggestion is the use of poison oak, poison ivy, thorn bushes, or deep crevices with appropriate warning signs. In Lincoln National Forest, cholla cacti have been thickly planted on pueblo ruins in an attempt to discourage pothunters. Such plantings might help preserve rock art as well. Natural barriers such as these are only a short-term solution, and will probably not long deter serious thieves or vandals.

Pictographs or petroglyphs that are in readily accessible locations and suffering from repeated painting of graffiti by vandals can be treated with silicate compounds to prevent the paint from penetrating the rock. Lock-lubricating compounds would work in this way (Wicks 1988). The drawback to these treatments is that they prevent the

natural patina from forming. Thus, over time, treated areas would look different from surrounding, nontreated rock. The effect of compounds on the original paint pigments is unknown. Research by Zeno Wicks, chemist, and me into these questions has recently begun at the Three Rivers petroglyph site.

The logical extension of erecting physical barriers is the removal of the art to a museum, which necessitates complete loss of the setting and the integrity of the artwork. Given the amount of rock art, and its size and weight, removal of significant amounts would be impractical. Furthermore, the context of the art is lost when it is moved, whether by vandals or museum personnel. Only where portable items, such as boulders, are in imminent danger of being collected by vandals should rock art be removed.

Legal protection of rock art and other cultural manifestations includes active policing of sites and vigorous prosecution of offenders. This solution is expensive, but it is being used by the Bureau of Land Management, Forest Service, and other Federal agencies. Recently, in Arizona, a felony conviction was obtained for pothunting on a non-rock-art site. Such convictions may ultimately be ordered by courts for vandalism of rock art.

The protection afforded by law is minimal (Bieg 1980). The laws do not expressly address the issue of vandalism to or theft of rock art. Furthermore, arrest and prosecution of offenders has not occurred. Unless the laws are strengthened and the police forces are given the mandate to arrest, with active prosecution and conviction to follow, then legal action will probably remain ineffective in stopping vandalism to rock art. Policing and stiff penalties for vandalism could help a lot. Laws are also needed to make the sale of rock art illegal.

The approaches most likely to be successful in salvaging the scientific value in rock art are recording and education. These include scientific recording of the components of the art, disseminating means of removing graffiti, and informing the public about the value of the art and why it should not be vandalized.

Rock art has been recorded both by professionals (see, for example, Bilbo and others 1979), and in rock art field schools that include nonprofessionals (Bain 1987). Procedures are fairly well established; they are time consuming and may be costly. Photographing and sketching are commonly used; these methods may be supplemented with tracings and rubbings. Photogrammetry has also proved successful; for example, at the recent Bureau of Land Management project at Arroyo del Tajo, near Socorro, New Mexico.

Until recently, records of rock art included chalking of the image and then photographing the art. The chalk lasts a long time, however (BLM 1969:3), looks artificial, and detracts from the display value. Chalk can also cause chemical damage to the art (Bednarik 1987). Finally, chalking is rarely faithful to the original design. People use chalk because the design is hard to see. This leads to extrapolation or projection of design elements, which, at its worst, is little more than making up portions of the design.

Photographs are in black and white to record detail, but contrasts in color and texture require colored film. For emphasis, side lighting is often necessary. In the past, to provide more emphasis, aluminum powder mixed with water has been applied. This mixture then has been washed off or removed by brushing after it is dry (Bain [n.d.]). Rock art paintings have also been dampened with distilled water before photographing, to help bring out the image. Such treatments are not recommended. They can cause unintentional and extensive damage, as even experts have found to their horror. Even distilled water may damage clay pigments. I stress that rock paintings should not be touched; they often are on extremely fragile surfaces. Photographs have also been used to measure the dimensions of art elements. If this is done, the art must be well centered, or distortion and inaccurate measurements may occur.

Tracing can be directly onto mylar, acetates, or other transparent sheeting taped over the rock art. Opaque heavy paper can be used to produce rubbings of petroglyphs. Although thin, unsized muslin has been used to produce ink prints, as has inking of the non-art areas and pressing or rolling paper over them, such processes stain the rock, are extremely damaging, and should never be used.

Sketching of rock art is satisfactory if a string grid is taped over the rock, but this method is time consuming and not fully accurate. Successful and accurate records can be made by mapping the area with a transit and grid.

Other methods of recording art, such as plaster of Paris and papier-mache molds, have not proved successful. Often, the material penetrates the rock and cannot be completely removed, and the process may speed rock deterioration or leave an unsightly mess (BLM 1969).

Recently, Federal agencies have begun concerted efforts to educate the public on the value of rock art both to the public and to the professional, and the damage done by vandals to such art. Public education is viewed by many to be the best use of available dollars and the best way of ensuring long-term protection. Without a change in public attitudes, graffiti are usually reapplied very quickly after removal. Educational efforts have included media-blitz techniques—incorporating newspapers, television, and radio—and public and press visits to locations of major vandalism (see Gemoets 1987). Another approach has been to sponsor public trips to vandalized localities, volunteer fieldwork programs, lectures, displays, and exhibits (see for example, Dagget 1987a, 1987b; Getty [n.d.]). Public-oriented documents (e.g., Hays [n.d.]) and newsletters (e.g., Eastvold 1987) can also be useful. Finally, professionals have visited schools and talked to young people about the problems associated with vandalism.

Such public-education efforts are extremely important for a variety of reasons. First and foremost, only by changing attitudes can the vandalism be stopped. Only through such efforts can public opinion be mobilized and brought to bear against the perpetrators. Public opinion can also exert pressure against using areas near rock art sites for nuclear waste dumps (see Associated Press 1988) or other public projects. Finally, only by motivating the public can funds be raised to purchase important rock art sites and preserve them from development.

Conclusions

Rock art vandalism can be stopped only by a multifaceted strategy incorporating a change in public sentiment, strong laws with vigorous prosecution, active barriers to vandals, and research into techniques of restoration and the motives of vandals. Methods of control by physical barriers and nondisclosure of locations are successful only in the short run; once found, an art site can rapidly be destroyed. Because graffiti spread quickly and are progressive, they can rarely be stopped once begun. Similarly, recovery techniques are only partially successful, and the damage is often reinfllicted soon after the graffiti are removed. But education is a very long-term approach. By the time it is complete, little rock art may remain.

To preserve rock art, short-term and long-term solutions must be used in conjunction. Barriers to vandalism must be created, stronger laws enacted, and vigorous policing and prosecution implemented. Simultaneously, efforts must be made to restore damaged art and to educate the public as to the value of preserving the art in situ. This education probably would be most effectively aimed at children of elementary school age.

The long-term outlook is not promising. Irretrievable loss of rock art is occurring and will probably continue to occur until a means is found to protect the art, to educate the young to its value, and to change public perceptions. Only by mobilizing public support and increasing public knowledge of the problem can rock art vandalism ultimately be stopped.

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Current Programs in Southwestern Archeology: Needs for Community Involvement

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Abstract

This paper focuses on the archeological problems in two areas within the Four Corners Area of Utah, Arizona, Colorado, and New Mexico: southeastern Utah and southwestern Colorado. The history of archeological interest and awareness of the areas is described. The problems that have arisen with the discovery of artifacts and solutions to these problems are discussed. Solutions include educational programs, promoting archeological avocational "professionalism," archeologist involvement within local communities, community recognition of the economic opportunities of historic and prehistoric preservation, and improving the atmosphere of federal investigations of pot hunting.

Keywords: Archeology, artifacts, community, preservation, pot hunting, Four Corners area.

Background

Archeological interest and awareness in the Southwestern United States began around 1870. William H. Jackson and William M. Holmes, surveying for the United States government, first recorded the unusual and well-preserved archeological cliff ruins located in Mancos Canyon, McElmo Canyon, and the Hovenweep National Monument areas of southwestern Colorado (Jackson and Holmes 1981).

In 1880, a short time after the survey party led by Jackson and Holmes, the Benjamin K. Wetherill family settled in the Mancos Valley below the escarpment of the present-day Mesa Verde National Park in southwestern Colorado. Their initial settlement and survival in the valley was dependent on good relations with the Weeminuche Utes. The Wetherill family members were diplomats and soon had the respect of the Utes (Wetherill 1988). Because of this respect, access was obtained to the grazing areas where cliff dwellings were abundant. Using the written report of Jackson and Holmes and adding a large dose of inquisitiveness, the Wetherill's soon found the now-famous Anasazi cliff dwellings in today's Mesa Verde National Park.

The Wetherill family was responsible for introducing many now-renowned archeologists to the Southwest and the Anasazi culture. They were also indirectly responsible for the first attempt at antiquities law enforcement in the Southwest. Completing a collection with the Wetherills at Mesa Verde in 1891, Gustaf Nordenskiöld attempted to load his Anasazi cliff dweller collection from Mesa Verde on a train bound for the East Coast of the United States and then by boat to Finland. Nordenskiöld was detained in Durango, Colorado, until it was determined that no laws existed to prevent him from taking the intact collection to Europe (Nordenskiöld 1979). The concern raised over these and other artifacts leaving the country was the impetus for the 1906 Antiquities Act, which was frequently cited but largely unenforced until the implementation of the 1979 Archaeological Resource Protection Act.

By 1893, institutions of preservation, including the American Indian Museum (Heye Foundation), American Museum of Natural History, Peabody, University of Pennsylvania, and Chicago Field Museum, were in their infancy. Competition among these institutions was keen as they searched for the "best" collections to aid their endowments. Native American collections were often obtained under questionable ethics and moral decisions (Cole 1985).

Anasazi artifacts were first introduced to these collectors by Charles McLoyd, Charles Graham, and the Wetherill family (Smith, no date). These individuals were miners, ranchers, and businessmen who were fascinated by the Anasazi initially, and later by the possibilities of making a living from the artifacts while continuing their knowledge-seeking about the Anasazi. McLoyd and Graham had sold their collection from southeastern Utah to H.C. Green, a Baptist minister from Durango, Colorado. Green introduced these collections to America as "the oldest relics in the world" (Fuller 1891). McLoyd, Graham, and Wetherill identified a different race of Anasazi individuals from the shape of their heads and their interred artifacts (Moseley 1966). The individuals found in these dry caves were sometimes mummified, and a variety of well-preserved baskets, weavings and jewelry were discovered with them. They were desiccated from the dry environment and became grotesque showpieces for the American public. One story of a mummy driving a wagon during the county fair is folklore in Durango, Colorado (Daniels 1979). By

1897, the caves found in the region of the Four Corners States had largely been "dusted out" in the search for basketmaker and cliff-dweller artifacts. Dry caves were located in thousands of miles of nearly inaccessible sandstone canyons. The burials contained excellent examples of what some refer to as "high-status" burials. Preservation of normally deteriorated basketry, cloth, cordage, wood, bone, and jewelry were in near perfect preservation. The oldest date from southeastern Utah appears to be a coprolite date from Turkey Pen Ruin in Grand Gulch from 200 A.D. (Aasen 1984, p.32).

Competition for Anasazi artifacts, especially those of the basketmaker, became keen while attempts were made to assemble the best collections. The World Columbian Exposition of 1893 created a turmoil of activity in the Southwest. Who would present the most unique artifacts to the visiting public? The State of Utah commissioned Dan Macquire to obtain a collection from southeastern Utah. The collection was exhibited at the Columbian Field Expedition in Chicago and then returned to Utah and donated to the L.D.S. Church (Sharrock 1963, p. 8,9) While in southeastern Utah, he consulted with and hired Platt Lyman, a respected settler of Bluff, Utah (Judd 1949). Here were trained those first people who are now referred to as "pothunters."

Such a glut of artifacts was available from the Southwest that Dr. George A. Dorsey, Field Columbian Museum, wrote a response to Richard Wetherill in 1904 about a collection Wetherill was selling at the St. Louis Exposition (Dorsey 1904). He wrote, "I may add that I do not consider the broken pottery as of any value inasmuch as it is so easy to get pottery from the southwest that it pays to dig it up rather than mend it."

Edgar Lee Hewett, surveying archeological resources in southeastern Utah in 1907, recorded that archeological areas near the trail from Comb Wash to Grand Gulch near Cigarette Springs on the Grand Gulch Plateau were heavily excavated: "There are in almost all cases signs of digging—some quite recent" (Hewett 1906-1909).

Edgar Hewett continued his survey of southeastern Utah and southwestern Colorado. While entering the Montezuma Valley near Cortez, Colorado, he met a group from Colorado Springs, Colorado, that was excavating. His comment follows: "The Colorado Springs party pays \$1.00 for the (Quick) ? Ruin, (ed. note: This probably refers to the quick buying of a ruin to exploit its resources.) \$1.00 for every piece of pottery found" (Hewett 1906-1909)

Edgar Hewett was so concerned with the future of archeological resources that he wrote a paper, called "Preservation of Antiquities"

If the farmer or miner wants timber from the forest reserves he can have it and it becomes his own property to burn up or use for props according as specified in his permit. The land itself will even be given to the homesteader with all the ruins that are on it. They are then his property. He can dig them up and sell the specimens. This has actually been done and is being done. In southwest Colorado 1000's of acres containing ruins have been homesteaded recently. If the archaeological department of a university wants to secure specimens for its museum or for scientific use it must spend its money on excavation and they cannot own its own specimens. They are

placed under the control of the Smithsonian Institution. No other investigator is required to report his work and methods as prescribed by the government or give up his photographs (Hewett 1906-1909).

Between 1924 and 1929, Andrew Kerr, University of Utah, paid A. Shumway and others then living in Blanding, Utah, by the "pot" to assemble a huge collection of pottery from southeastern Utah. Notes on provenance were, at best, cursory (Hurst 1988).

Examples such as the above provide insights into present-day thinking. The tone was set early for certain individuals within communities to view archeological sites as economically exploitable resources. Local individuals suffering from weakened economic situations will turn to the mining of the resource. This, then, begins a cycle of destruction—as rarity increases price, more sites are exploited.

Sociological Impacts

I have observed within my own four generations of family the tenacity required to live in the Southwest. Populations forming these isolated, sparsely populated communities have constantly wrestled livings from the land. Grazing, mining, and oil and gas leases have propagated the myth that the public lands, including archeological resources, are their own to economically develop. Other individuals who have moved into the area or developed conservation ethics attempt to contradict this thought pattern.

This legacy of artifact sales has remained in the Four Corners. The selling of Indian arts, crafts, and artifacts, whether illegally or legitimately, is a major economic niche in the Four Corners. One need only count the trading posts. With a market more viable now than in the late 1800's, such trading is not likely to disappear soon. Private collectors and museums continue to take a toll on the remaining archeological values of the region. Combined with increased seismic exploration, land development, livestock, and natural erosion, the deterioration of archeological sites is rapid and continuous.

Residents of the area have voiced concerns about the vast collections housed in the East with few or none of those materials available for view in the areas where they were found. This has been used as justification for collecting the remaining artifacts. In recent years, museums have begun to be built near where those original artifacts were uncovered. With this process, begins a slow reclamation of ownership and, along with it, a pride in being caretakers.

Many individuals who are dependent upon public lands for their livelihood feel that Federal laws recently enacted as part of the Federal Lands Policy Management Act are a direct infringement of their right to make a living from the land; indeed, in some cases, this is a reality. Political solutions to better land management will aid the situation, but not without conflict.

Needs for Social Change

Social changes, by their nature, are slow. Some individuals must be approached from a different point of view than tactical law enforcement. Communities need educational and economical assistance to show positive growth benefits from conservation practices and educational tourism. Southwestern Colorado and southeastern

Utah have seen a number of these educational programs develop in the last ten years.

Programs Perceived Effective in Colorado

Crow Canyon Archaeological Center

Crow Canyon is an avocationally oriented citizen-involvement program in archeological research. The facility is 8 miles from Cortez, Colorado, and is currently excavating one of the largest pueblo sites in the region. The two-fold purpose is (1) education (a vocational involvement in a long-term archeological project), and (2) research (answer questions pertaining to Anasazi sites just prior to abandonment in the late 1200's).

Colorado University

A meeting facility has recently been donated to Colorado University by a member of the Cortez community. The facility provides classes and lectures with an archeological and natural history emphasis. The facility also serves as a base for the recently founded chapter of the Colorado Archaeological Society. Excavation of Yellow Jacket Ruin occurs during the summer months by students exploring careers in archeology.

Anasazi Heritage Center

The building of the Heritage Center was a direct result of archeological mitigation from the Dolores Dam project. The center was built with Bureau of Reclamation funds and is managed by the Bureau of Land Management (the first curatorial museum to be managed by the Agency). Resources include all data and artifacts retrieved from the Dolores project, interpretive displays (scheduled to open during Fall 1988), and traveling exhibits, and the center serves a local need for curation and a visitor center.

The Colorado Archaeological Society

The primarily amateur Colorado Archaeological Society originated in the early 1930's; and in 1987, a chapter was established in Cortez. Durango has had a chapter for a number of years. Activities include field trips, lectures, and certification through professionally taught archeological classes. The society also serves as a political advocate for cultural resources.

The Kelly Place

The Kelly Place originally was a horticultural example for dry climates created by George Kelly. Kelly, active for years in the Denver Botanical Gardens, had a concern for archeological resources in McElmo Canyon near Cortez, Colorado. His concepts have created a location for groups to explore archeology, primitive technologies, biologies, and other programs. A comfortable base camp facility is on the site.

Programs Perceived Effective in Utah

Edge of the Cedars, a cultural heritage park funded by the Utah State Parks system, provides curation for the Bureau of Land Management, as well as for State lands. Interpretive slide shows and exhibits are available to the public. A self-guided tour of Edge of the Cedars Pueblo is also available.

White Mesa Institute	A division of the College of Eastern Utah in Blanding, Utah, the White Mesa Institute cooperates with Edge of the Cedars State Historical Park. Programs include excavation, curation, and field programs in archeology, geology, and cultural and natural histories.
Four Corners School	Based in Monticello, Utah, Four Corners School designs educational and research programs in geology, archeology, and natural history.
Canyonlands Field Institute	Based in Moab, Utah, Canyonlands Field Institute provides educational programs to the Grand County area and offers extended field trips in archeology and cultural and natural histories.
Avocational Organizations	Currently, a limited avocational archeological group exists in southeastern Utah.
Other Organizations	A variety of experiential and public schools, museums, and environmental groups utilize the archeological resources for teaching and preservation support.
Community Concern	Positive changes in outlook have resulted because of (1) community involvement and local financial and institutional support combined with (2) an increasing awareness of the uniqueness of the archeological resources in the Southwest and the resulting economic boost from visitors and participants. Government assistance has been minimal to nonexistent, and Government programs for law enforcement and education in these areas have been small, ineffective, or absent. Recent Federal raids have shown poor investigative technique with a resulting lack of convictions. Educational programs and cooperation with collectors has not occurred by the Bureau of Land Management. Community-involvement programs are responsible for making a difference through economic benefit, educational concept, and direct interaction with other individuals in private business.

Example of a Community-Generated Program—One program that, as Research Director, I am particularly familiar with is the Wetherill/Grand Gulch Project. This program shows the effectiveness of community caretaking, and the importance of historical continuity. White Mesa Institute is currently involved in a program of "reverse archeology." The project traces the early roots of Southwestern archeology, locates old collections, and uses original excavation notes to retrace as best we can where artifacts came from in those isolated lands. In a few cases, we have been able to locate the exact burial locations. Avocational archeologists have written the research design, received assignments, and traced collections and individual histories across the United States. Members of the Wetherill family, practicing professional archeologists, and interested individuals have agreed to serve as advisors. School groups and local individuals have become involved and intrigued with this combination of Anglo and Native American history. An archive of research materials, photographs, and a permanent exhibit will be created at Edge of the Cedars State Historical Park in Blanding, Utah. Educational booklets will be published to help further protection of the remaining archeological values. The final effort will culminate in a traveling photographic exhibit touring the region.

Conclusions

In conclusion, long-term solutions must involve

- Stimulating educational programs that involve the local public in promoting local pride and a caretaker mentality;
- Promoting archeological avocational "professionalism" by giving locals an active ownership role in helping to preserve, protect, and study sites;
- Archeologists, along with their other duties, concentrating on public relations, education, and teaching, originating in the local community;
- Exploring, teaching, and retraining communities to the positive economic opportunities historic and prehistoric preservation will generate in nonpolluting industries with minimal impacts on the environment and resources;
- Toning down the "warlike" atmosphere surrounding Federal investigations of pothunting by concentrating on apprehending high-level dealers and buyers.

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Application of the Loran C as an Aid to Locating Cultural Resource Sites

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Abstract

Security of cultural resource sites on the Fort Rock Ranger District, Deschutes National Forest, in central Oregon has become a major concern in light of recent violations of archeological resources. Previous contract archeological surveys and Forest Service signing for cultural sites increased site visibility. Evaluation of the procedures indicated that a new method was needed to eliminate the visibility problem. A secondary navigation instrument, the Loran C, was used to obtain geographic coordinates and identify sites and their datums without the use of high-visibility methods. Other resource managers, who may not have the training or expertise, sometimes need to locate these cultural sites. The Loran C is a tool that can be used for this purpose. This instrument provides a latitudinal and longitudinal coordinate and allows additional information for site datum designation and ease of relocation at a future date.

Keywords: Loran, cultural resource, cultural resource management, site security, protection.

Introduction

Security of cultural resource sites on the Fort Rock Ranger District, Deschutes National Forest, in central Oregon (figs. 1 and 2) has become a major concern in light of recent Archaeological Resource Protection Act (ARPA) violations, convictions, and pending cases. Previous Forest Service and contract archeological survey procedures for signing cultural sites increased their visibility by using permanent tags and generous amounts of cultural resource flagging. A major problem has been created because pothunters or vandals have honed in on this method of tagging.

Evaluation of the procedure indicated that a new method was needed to eliminate this problem. A secondary navigation instrument, the Loran C, can be used to identify sites and their datums without the use of high-visibility methods. When projects actually begin, other resource managers may need to locate these cultural sites, and they may not have the training or expertise needed for locating inventoried sites. The Loran C is a tool that can be used for this purpose. This instrument provides a latitudinal and longitudinal geographic coordinate which expedites locating a cultural site or areas that have been vandalized.

Setting

The Fort Rock Ranger District is at the margins of the Great Basin and the Upper Deschutes River Basin. The land form, typical of the High Lava Plains physiographic province (Baldwin 1976), is characterized by a moderate relief topography of volcanic cinder cones, lava flows, and pumice soils. The Newberry Volcano, which is nearly 20 miles in diameter and rises to an elevation of 7897 feet above sea level, dominates a major portion of the Fort Rock Ranger District. The numerous obsidian sources found throughout this region were a major resource focus for prehistoric inhabitants. An abundance of prehistoric sites and antiquity extending back an estimated 14,000 years (Bedwell 1973) contribute to the recognition of central Oregon as one of the richest resources of Native American artifacts in the Western United States.

Most prehistoric data throughout the region have been derived from rockshelter and cave sites. Unfortunately, many of these sites have been vandalized by recreational or hobby collectors and artifact hunters. Other sites, including lithic scatters, prehistoric rock art, and historic sites, have also fallen prey to the pothunters. Scientific value and importance of cultural resources to our national heritage are not fully appreciated by recreational or commercial collectors.

Pothunters believe they are saving the past by collecting prehistoric artifacts. The destructive methods these vandals use, in fact, may be similar to those used by early antiquarians who recorded limited contextual data. A recent article in *Archaeology* illustrates this dilemma.

Collecting is big business, archaeology is not. Business ethics, in which the dollar is supreme, is not compatible with archaeological ethics where contextual data are worth more because they provide a fuller picture of ancient peoples.

Collecting and profit go hand in hand when exorbitant prices for artifacts have contributed to the destructive looting.

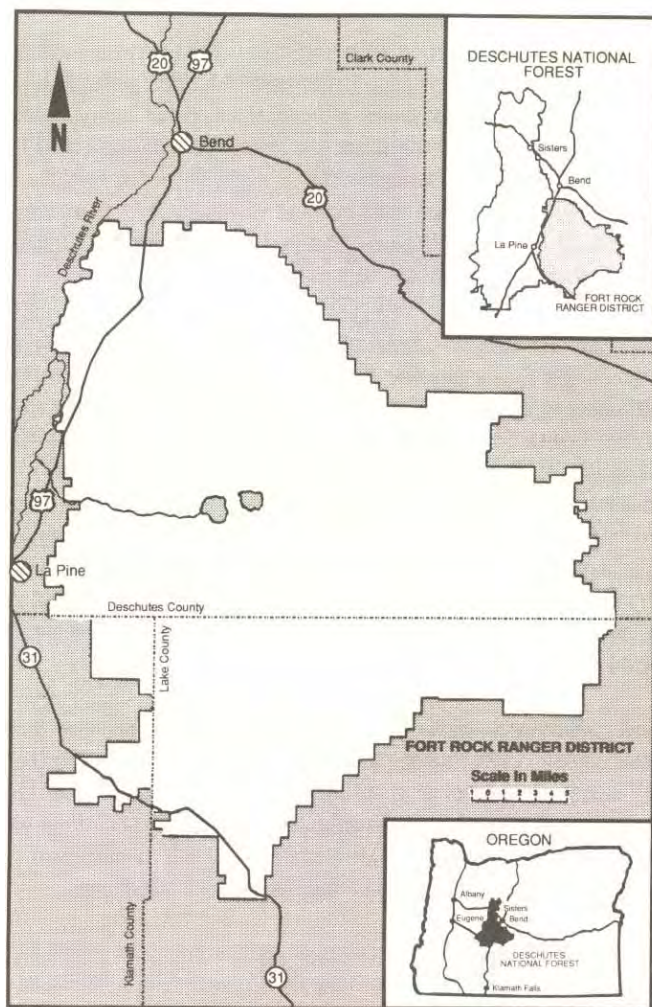


Figure 1—Tha Deschutes National Forest, Fort Rock Ranger District

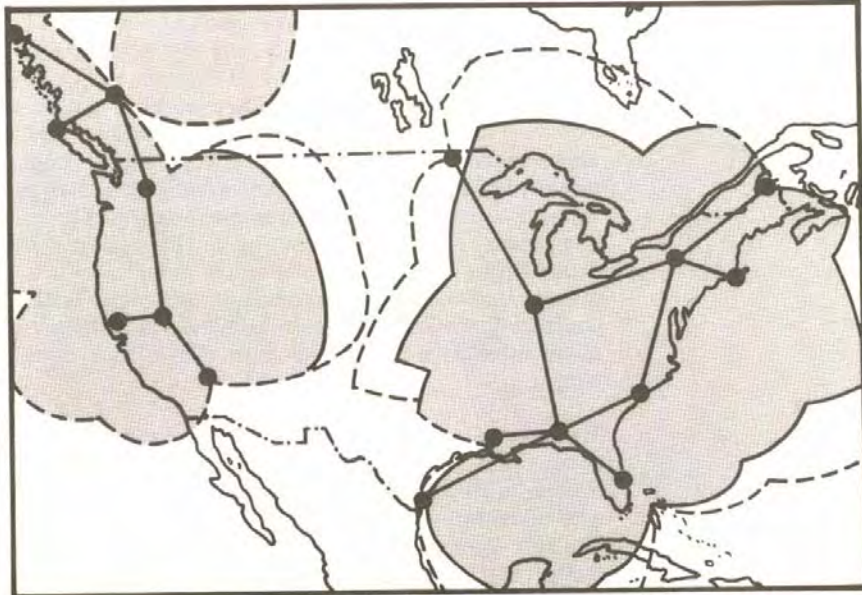


Figure 2—Loran master and slave stations and operation coverage for North America

The Federal Government has had the major role in protecting these resources. The significance of this role is exemplified by the Antiquities Act of 1906, the Historic Sites Act of 1935, the Historic Sites Preservation Act of 1966, the National Environmental Policy Act of 1969 (NEPA), Executive Order 115593, and the Archaeological Protection Act of 1979 (as amended). Public land administrators have been defined as protectors, preservationists, evaluators, stewards, and trustees for cultural resources. Recent estimates (Davis 1985) suggest that 50 percent of known sites on the Deschutes National Forest have been damaged by vandalism.

National Forest law-enforcement investigations into ARPA violations and subsequent pending cases and convictions indicate that many sites designated in a highly visible manner have become targets of vandalism. To reduce site visibility, a tagging method combined with the use of geographical coordinates was developed as an alternative to previously used tagging and flagging methods. Previously, when sites were located they were tagged with orange plastic ear tags and flagged with generous amounts of surveyor's tape designated for cultural resources. Problems with this approach included high visibility to forest users and the disappearance of the flagging before the onset of timber harvest activities. Before the 1987 field season, discussions were held between the District Archeologists and the Timber Staff to determine an approach that would satisfy management objectives for both cultural resources and timber. Initial site locations or legal locations (Township and Range) and the ability to quickly locate the site are provided by using the Loran C.

Loran C

Loran is an acronym for LOnG RAnge Navigation. The Loran has been in use since World War II; it uses a system of remotely operated transmitters and a receiving station that correlates radio-wave travel time with distance (Sweeney 1987). The system operates on a 100-kHz frequency providing ground wave coverage over extremely long distances in excess of 1,000 miles. This frequency suffers less from skywave interference, thereby giving more reliable geographic location. The Loran receiver locks onto the pulses transmitted from primary and secondary ground stations and converts them into latitude and longitude coordinates by identifying their unique signals. Although land coverage by the system is extensive, accuracy and dependability of the system may not be practical for use in inland areas of the midwestern United States. This is due, in part, to the limited number of ground stations provided by the West Coast and Great Lakes systems (fig. 3). A worldwide system of ground stations is operated by the United States Coast Guard and foreign governments.

The features of the Loran, including size, weight, operating temperature, accuracy, settling time, and tracking time, increase the efficiency by which the resource can be relocated. Relative size of the receiver is as follows: height, 3.75 inches (9.75 cm); width, 8.85 inches (22.5 cm); depth, 11.7 inches (29.7 cm); and weight, 13 pounds (3.9 kg). Operation temperature tolerances are 0 to 50 °C. The settling time or correlation of the ground pulses is less than 2 minutes. Setting the "waypoints" of geographic coordinates into the navigation system makes finding the most direct route to the resource area easy. The navigation system is accurate to 50 feet and will exhibit "HERE" on the receiver display when in the immediate area of the input waypoints. The Loran can be affected by several factors, including atmospheric interference caused by electrical storms, lightning and sunspots, transmissions from military installations, and from various other causes. Under these circumstances, the receiver should be calibrated with known waypoints provided by the agency operating the ground system.

Pedestrian surveys of timber sales are the primary activity of cultural resource personnel during a field season. When a cultural site is located, it is inspected to determine size, extent, and physical characteristics. A dominant landmark or onsite feature is then chosen as the datum and tagged in a manner similar to other forestry activities. In the event of conflicts between the timber sale and cultural resources, normal procedures require the site be identified in the field and on Timber Resource Inventory (TRI) cards used in presale and postsale activities. Most projects on the District are implemented under a five-year action plan, and the surveys for cultural resources are usually conducted well in advance of the ground-disturbing activities. Identifying cultural resource sites in a highly visible manner early in the project planning stages would be unwise. If the Loran is used and geographic coordinates are obtained before timber, silviculture, and other ground-disturbing activities, the site datum can be located and site boundaries identified with the same project flagging and tags.

A recent survey of a 2,500-acre area of a 13,000-acre fire involved monitoring previously inventoried sites. In the fire-devastated area, sites were difficult to locate because the site tags and flagging were destroyed and because of the extreme changes in the environmental setting. If the geographic coordinates of a site had

been available before the survey of the area, the vicinity of a site datum could be quickly located and evidence of surface artifacts identified.

Many of the sites in the Fort Rock District are extensive, ranging from 10 meters to several kilometers square. When size is a factor, specific activity areas indicated by quarrying, secondary manufacture and reduction of stone tools, food processing, and other activities can be identified and related to resource use by prehistoric peoples. Similarly, the geographic location of impact areas in ARPA violations can be identified. The Loran information is recorded on site-inventory forms during the documentation of the survey or in an incident report. Additional information is recorded in the District and Forest resource files, which are available to other resource managers.

Discussion

The use of the Loran system in cultural-resource management expedites site-identification procedures during the planning and layout stages for ground-disturbing projects and circumvents the problem of inadvertently leading collectors to the sites. By using the Loran, site visibility is decreased, accuracy and efficiency in site relocation is increased, and additional time for site monitoring is available. The Loran offers an electronic position-fixing system that operates well in a forested environment. The future of aerial surveillance and detection of ARPA violations to inventoried cultural resource sites will also be aided by the Loran coordinates obtained during inventory surveys. Improvements in size, accuracy, and cost make the system advantageous in many ways and may help in curtailing some of the illegal activities conducted on public lands.

Before the Loran was used, forest users could key in on flagging used to identify cultural resource sites. Some of these flagged sites have been vandalized through unauthorized collection and excavation. To stop the accelerated vandalism and destruction of this valuable resource, more time must be spent on law-enforcement efforts and inhouse monitoring of sites outside project areas. Cultural resource sites are in greater danger from the pothunter's or vandal's shovel than from any other source.

Public education efforts have aided in providing casual collectors or amateurs with a greater understanding of the resource and how it is managed and protected. On the other hand, activities of those intent on commercial gain from the theft of these properties are not curtailed. The irreversible damage to the resource through extensive illegal excavations is best exemplified in a news release (Attig 1988) quotation from the Deschutes National Forest Supervisor, Norm Arseneault: "American citizens have lost an invaluable part of their heritage through ... commercially driven acts." Without a concerted effort to identify, protect, and monitor, the future of cultural resource management may be bleak.

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Indirect Management To Protect Cultural and Natural Resources: Research, Ethics, and Social Policy

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Abstract

A major problem faced by managers of outdoor recreation areas is the protection of cultural and natural resources within their jurisdictions. Much of the damage to these resources is because of the "depreciative" behavior of recreational visitors who, for various reasons, violate protective regulations. In this paper, we synthesize previous research and theory on depreciative behavior and noncompliance with rules. We begin by discussing definitional issues, including the distinction between "direct" and "indirect" management approaches to reducing noncompliance. Based on our review of previous research, we propose a theoretical framework for understanding and reducing noncompliance in outdoor recreation areas. This framework is derived from sociological and social psychological explanations of prosocial behavior and deviance. Included in our review is an assessment of the effectiveness of different indirect management techniques (such as education, activity programming, and site design) for reducing damage to cultural and natural resources in outdoor recreation areas. The successful application of different forms of indirect management by the U.S. Department of Agriculture Forest Service and the National Park Service is summarized. Finally, we critically analyze some of the major ethical issues in the indirect management of human behavior. A discussion of needed research and of limitations in applying indirect approaches concludes the paper.

Keywords: Indirect management, behavior control, policy, ethical issues, social policy.

Introduction

In recent years, social scientists and resource managers have expressed increased interest in the potential of "indirect management" to control visitors' behavior in outdoor recreation areas. Although definitions of indirect management vary, a common theme relates to the use of methods other than law enforcement to encourage rule compliance by visitors. The benefits of indirect management in reduced cost, positive public relations, and preservation of freedom in leisure experiences have been discussed by other authors (Christensen and Davis 1984; Cole and others, 1987; Lucas 1981, 1982; Manning 1986). In this paper, we describe various methods of indirect management and summarize research evaluating the effectiveness of these methods for protecting cultural and natural resources. We also discuss policy and ethical issues that have arisen around the use of indirect management to modify visitors' behavior in outdoor recreation areas. The theoretical basis for indirect management is described; however, for additional discussion of theory, the reader is referred to Christensen (1981), Christensen and Clark (1983), Gramann and Vander Stoep (1987), Samdahl and Christensen (1985), and Vander Stoep and Gramann (1987). These papers in turn draw upon comprehensive overviews of social psychological research on such closely related topics as prosocial behavior, altruism, helping, and bystander intervention (Dovidio 1984, Krebs and Miller 1985, Latane and Darley 1970, Schwartz 1977).

Distinguishing Direct and Indirect Management

Resource managers have two general strategies available to them for managing inappropriate behavior by visitors to outdoor recreation areas—"direct" and "indirect" management (Gilbert and others 1972, Hendee and others 1978). **Direct management** can be defined as strict enforcement of rules and regulations governing visitor actions, including the use of nonvoluntary limitations on visitor access. Direct management represents explicit authority to control the behavior of others, backed by formal sanctioning power. This power encompasses such overt measures as surveillance, issuance of citations, rationing (using lotteries and other permit-based systems to limit use), physical closure of areas, and activity zoning.

In contrast, **indirect management** is defined as the use of techniques that encourage more or less voluntary changes in visitor behavior. Indirect management represents influences on visitors' actions, without the explicit threat of sanctions for failure to comply. Direct and indirect management may be further described as either **preventive interventions**—strategies intended to prevent violations from happening—or as **control interventions**—strategies used after the violation or suspicious activity has occurred.

The most widely studied indirect management tools have been interpretation and education. Indirect management, however, also includes site- and facility-design techniques that reduce damaging behaviors and funnel use away from fragile areas, imposition of fees to discourage undesirable users from entering an area, HOST programs, and "adoption" programs that actively involve visitors or local residents in caring for an area's resources. Broad-based educational campaigns conducted off-site or through the mass media also are forms of indirect management. Examples include the Bureau of Land Management's "Operation S.A.V.E." (Save Archeological

Values Everyone), the USDA Forest Service's "Smokey the Bear" program, and the national "Take Pride in America" initiative. These programs differ from other indirect management methods, however, in that their goals are primarily to promote long-term changes in public values rather than effect immediate changes in the behavior of on-site visitors. In this paper, we concentrate on the "behavior-change" approach, while acknowledging the importance of broad-based educational programs for fostering a spirit of public stewardship over cultural and natural resources.

Bystander Intervention and Norm Activation

Conceptually, a distinction can be made not only between onsite and offsite indirect management, but between different classes of onsite programs. Bystander intervention programs encourage visitors to report illegal or otherwise damaging behavior committed by others (Christensen and Clark 1983). This approach has a theoretical foundation in experimental social psychology (Latane and Darley 1970) and a practical analogy in such community-based programs as "Neighborhood Crime Watch." Research in outdoor recreation areas shows that, in addition to aiding in direct enforcement of regulations, bystander-intervention programs can have an indirect benefit by reducing rates of rulebreaking among those visitors asked to report violations (Christensen 1981, Oliver and others 1985), which may sometimes be a more important benefit than the reporting behavior itself.

A more common indirect management approach attempts to get visitors to reduce their own rates of noncompliance and damaging behavior. These norm-activating programs assume that visitors are basically law-abiding citizens who, from ignorance, lack of reasonable alternatives, or because of certain environmental conditions, act in ways counter to their normal behavioral patterns. As the name implies, the objective of such a program is to "activate" visitors' normal feelings of obligation to obey rules and protect resources in recreation areas.

The effectiveness of bystander-intervention and norm-activation programs in outdoor recreation is well documented (Christensen 1981, Christensen and Clark 1983, Krumpe and Brown 1982, Muth and Clark 1978, Oliver and others 1985, Powers and others 1973, Roggenbuck and Berrier 1982, Schwarzkopf 1984, Vander Stoep and Gramann 1987). Nevertheless, it would be wrong to conclude that indirect management should replace direct enforcement in all situations where visitors' behavior is damaging resources. Two questions, in particular, must be answered. The first is, "In what situations is indirect management a feasible alternative to direct enforcement?" The second is, "Are indirect management techniques ethical?" Both of these questions are addressed in this paper.

Effectiveness of Indirect Management Techniques

Indirect management has been criticized for making assumptions about behaviors that run counter to basic human tendencies (McAvoy and Dustin 1983). This criticism draws heavily on Hardin's 1968 analysis of the "Tragedy of the Commons." Hardin argues that people tend to maximize their personal welfare at the expense of public welfare. Thus, if someone discovers an artifact while visiting a cultural site, the natural tendency will be to take it (personal benefit), even if the person receives

¹ Operation S.A.V.E., a proposal to increase citizen awareness and enforcement of the Archaeological Resources Protection Act in the Pacific Northwest, by Lynell Schalk, Assistant Special Agent-in-Charge, Bureau of Land Management, Portland, OR

an educational message stressing the value to others of leaving the site undisturbed (public benefit). This self-serving behavior is viewed not only as innately "human," but, in a social psychological sense, as being supported by stable underlying attitudes that are difficult to change by onsite interpretation or other indirect management techniques (McAvoy and Dustin 1983).

The counter view advanced in this paper is that much depreciative behavior and rulebreaking in outdoor recreation areas occurs because visitors are ignorant of regulations or lack the knowledge to act in ways that protect resources. According to this argument, most visitors have positive attitudes toward the general idea of resource protection, even though at times they may behave in ways that seem inconsistent with these attitudes. The potential disparity between general attitudes and specific actions is well recognized in the social psychological literature (Ajzen and Fishbein 1980). Thus, the challenge is not to change attitudes or values (admittedly a difficult task), but to give visitors the knowledge and means to act in ways consistent with their generally favorable feelings toward resource protection.

Which view of visitors is correct? Research on the effectiveness of indirect management strongly implies that the second is a more accurate depiction, at least of people who visit rural outdoor recreation areas. In an impressive number of cases, people's behavior has been changed by indirect management methods. It is hard to imagine this happening if all visitors were basically self-serving, which is not to deny that an area will not receive its share of hard-core violators and despoilers. Indeed, in some locations (such as remote regions with dense concentrations of archeological resources), these visitors may be the major source of resource damage. But at other sites, the hard-core offender may be relatively rare. In such areas, visitors should be encouraged to behave voluntarily in ways that protect cultural and natural resources. Social psychological theories of prosocial behavior are especially useful for suggesting how to accomplish this goal.

Prosocial Behavior Theory

Prosocial behavior can be defined as "helping" behavior that is not motivated by the expectation of a material reward for helping, or the threat of probable punishment for not helping. This definition actually parallels the major goal of indirect management, which is to encourage visitors to help protect cultural and natural resources by obeying rules, even though no material reward is offered for this behavior and the likelihood of punishment for not obeying is slight. Thus, a direct comparison can be made between the central issue in prosocial behavior theory and the fundamental problem addressed by indirect management.

At least two conditions apparently must be met if indirect management is to succeed in changing visitors' behavior (Christensen 1981, Gramann and Vander Stoep 1987). Both conditions are described below, together with research applying prosocial behavior theory to indirect management programs.

Belief that a problem exists—One of the most significant factors inhibiting helping behavior is uncertainty on the part of bystanders about the need for help (Baron and Byrne 1976). Thus, if behavior-change strategies are to be effective, visitors must first be made aware that a problem exists (Latane and Darley 1970, Schwartz and

Howard 1981). They should be informed of rules that they could be violating inadvertently, and they must be told how certain behaviors adversely affect resources.

Schwartz (1977) coined the phrase "awareness of consequences" to describe the condition in which people are made sensitive to the negative consequences for others of not helping. According to Schwartz, the greater a person's awareness of these negative consequences, the more likely they are to believe that a need for help exists, and the more apt they are to take overt action to resolve the problem. Heberlein (1972) extended Schwartz's research to encompass not only helping actions between humans, but pro-environmental behavior as well. Building on Heberlein's analysis, Gramann and Vander Stoep (1987) adopted the terms "unintentional violation" and "uninformed violation" to refer to damaging actions toward the environment that occur solely because people are ignorant of the rules for behavior in an area or are unaware that their actions have damaging consequences for cultural and natural resources.

Many researchers have demonstrated that when the link between visitors' actions and resource damage is made explicit, depreciative behavior and rulebreaking decline significantly. Oliver and others (1985) found that the number of campers who hammered nails into trees decreased 86 percent when campers were told how this practice affects tree mortality. Schwarzkopf (1984) reported that a sign explaining the harm to squirrels from visitor handouts reduced squirrel feeding by 50 percent among visitors to Crater Lake National Park. A second sign warning visitors of the danger of contracting bubonic plague from animal bites reduced feeding by 72 percent. Vander Stoep and Gramann (1987) documented a decline of 88 percent in depreciative behavior by youth groups visiting a Civil War battlefield when the negative impact of climbing on monuments and cannon was explained to groups at the start of their visit.

One likely reason that educational programs can change behavior is that they reduce any ambiguity that might exist among visitors about the need to alter certain actions to help protect resources. But reducing ambiguity is not always a simple task. Assuming that specific groups who need to receive a message are identified (and this is not always true), a major challenge is to successfully contact them. Because of cost constraints, most areas are forced to rely heavily on nonpersonal forms of communication such as signs, brochures, park "newspapers," and short-range radio broadcasts, which may not be effective in reaching most visitors to outdoor recreation areas (Peine and others 1984).

For managers interested in creating awareness of a problem through nonpersonal communication, the Crater Lake study shows that one approach is to present messages in a highly visible format in the immediate vicinity of where violations are occurring. Dispensing brochures along major travel routes, such as at (railhead registration stations or at ranger stations, also can be effective in reaching specific types of users, such as day hikers and wilderness users (Krumpe and Brown 1982, Roggenbuck and Berrier 1982). Finally, tailoring nonpersonal communication to the interests of a target audience can improve the chances of a message being attended to. For example, Galiup (1981) attempted to reduce rule violations at a Pennsylvania State park by explaining the park rules in a comic book distributed to visitors

registering at a campground entrance station. The attempt was ineffective, possibly because the comic-book format appealed mainly to children, and the violations it described (such as parking a car off a paved spur) were committed by adults (Galiup 1981).

Thus, nonpersonal communication, when appropriately tailored and efficiently distributed, can be effective in changing behavior. Research findings generally show, however, that face-to-face communication is more effective than nonpersonal media (Christensen 1981, Oliver and others 1985, Roggenbuck and Berrier 1982) probably for several reasons. First, personal communication generally has greater "stopping power" and "holding power" than signs or brochures; it is more likely to attract and hold a visitor's attention. Second, contact with uniformed personnel may increase the credibility of an appeal, as well as imply an official sanction if requests for help are not heeded. For example, Christensen (1981) found that campers tended to participate more in a bystander-intervention program when they were contacted by a uniformed forest ranger than when they were contacted by a nonuniformed campground host. Finally, direct contact reduces the otherwise impersonal relation between a managing agency and visitors. Positive interaction may promote a feeling of identification with staff by visitors and reduce the anonymity of visitors as potential helpers. Both of these conditions have increased helping actions in laboratory experiments on prosocial behavior (Diener 1980, Dovidio 1984).

Promoting personal responsibility—After establishing visitors' awareness of a problem, a second key to successful indirect management seems to be promoting a feeling of personal responsibility to help. Schwartz (1977) considers, along with awareness of consequences, ascription of personal responsibility to be the crucial precursor to actual helping behavior. Drawing on Schwartz's work, Gramann and Vander Stoep (1987) have described "responsibility-denial violations" as those that occur because visitors feel requests for help are unrealistic, giving them a reasonable rationale for denying any responsibility to help. Samp (1976) implied a similar effect in his description of "no-other-way-to-do-it" vandalism.

What are the reasons for responsibility-denial? A major one is certainly the belief by an individual that he or she lacks the knowledge or capacity to help in a specific circumstance. A second reason, documented extensively in bystander-intervention research (Latane 1981), is "diffusion of responsibility." When several persons are in a position to help, and all are aware of the others' presence, each person tends to assume someone else will act, which removes the burden of personal responsibility from any single individual. In support of this effect, Christensen (1981) found a strong pattern for individual campers to be less likely to report littering behavior by other visitors as the number of people in the camper's own party increased from two to six or more.

People's acceptance of responsibility to obey rules and protect resources can be promoted in several ways. Where visitors believe they lack the ability to help, clear instructions on appropriate behavior can be given. This instruction is essential in bystander-intervention programs, where visitors should be informed not only of what types of violations to report, but also of the various methods for reporting. In Christensen's bystander-intervention experiment, campers in a National Forest were

given instructions on how to report to authorities depreciative behavior committed by other campers. When confronted with staged littering, campers who had received instructions reported the violation at almost three times the rate of campers who had not. Even so, the reporting rate in the experimental group was only 16 percent, perhaps because of a general reluctance to "tattle" on others, or because of the relatively innocuous nature of the littering offense (Christensen and dark 1983).

Personal responsibility to help also can be promoted by structuring situations so that visitors have a reasonable alternative to committing illegal or damaging behavior. For example, Roggenbuck and Berrier (1982) successfully used a combination of a brochure and a personal appeal from a backcountry ranger to convince hikers not to camp at a popular meadow in a North Carolina wilderness. The brochure explained the impacts of concentrated camping and contained a map showing the location of five alternative campsites located within one mile of the meadow. The significance of these alternatives was illustrated by the finding that, with the exception of hikers accompanied by young children and those arriving at the meadow less than three hours before dark, a significant number of campers moved on to another site (Roggenbuck 1986, Roggenbuck and Berrier 1982). A likely explanation for the pattern of noncompliance is that late-arriving hikers and those with children perceived the request to hike an additional distance as unreasonable. For other campers, however, the alternative sites probably represented more realistic options, and information on their locations was no doubt crucial to bringing about the high rate of compliance.

Personal responsibility also can be promoted by making visitors feel distinctively qualified to help. Theoretically, this represents an attempt to overcome diffusion of responsibility. Vander Stoep and Gramann (1987) designed a "Heritage Guardian" program that enlisted the help of youth groups hiking through a Civil War battlefield in protecting the park's cultural resources. Hikers were asked to refrain from climbing or sitting on monuments and cannon and to report any damage they noticed to the area's resources to park managers, using a special form provided for that purpose. Hikers also were told that they were distinctively qualified to help because they visited areas that were not frequented by other users or by the park's staff. Participants in the Heritage Guardian program had 88 percent fewer incidents of climbing on monuments and cannon than did members of a control group, suggesting that the program was effective in increasing the hikers' commitment to help protect the park's resources. Unfortunately, the design of the experiment did not permit a conclusive determination of whether the decrease in depreciative behavior was due to participation in the Heritage Guardian program alone or to a combination of participation and receiving a verbal message explaining how climbing damaged resources.

In summary, although additional research is needed, increasing evidence suggests that indirect management can reduce depreciative behavior and rulebreaking in outdoor recreation areas. In particular, indirect management appears to be a feasible alternative to direct enforcement when the primary reason for inappropriate behavior is ignorance of rules or lack of awareness of the negative effects of certain behaviors on resources. Simply educating visitors about the impacts of some actions can be very effective in changing behavior. Further, by providing reasonable alternatives to

prohibited actions and educating visitors about how they can help, indirect management also can be effective in promoting personal responsibility among visitors to protect resources. Other issues besides effectiveness have been raised by critics of indirect management, however. These include the value of indirect versus direct approaches in meeting policy mandates and the concern that indirect management may have serious ethical problems. Both of these criticisms are addressed below.

Policy and Ethics in Indirect Management

The major policy-related objection to indirect management centers on the classic dilemma pitting resource protection against public use. This issue has been raised most frequently with respect to the U.S. National Park Service (Lemons and Stout 1984, Runte 1987), but it seems relevant to other resource management agencies as well (Fairfax 1981, Harrington 1981, Robinson 1975).

Policy Issues

Policy-related arguments against indirect management are based on two points: a "biocentric" perspective that elevates resource protection above public use, and a belief that human beings have virtually infinite capabilities to adapt to environmental degradation (Dustin and McAvoy 1982, 1984; McAvoy and Dustin 1983).

Starting from the position that public use leads to resource damage, the question is raised as to whether visitors' exposure to this damage will be an effective block to further depreciative behavior. If humans have the ability to adapt to environmental damage, simply exposing them to it or educating them about how damage occurs would not cause them to modify their actions. Thus, because depreciative behavior is not self-regulating, and given the biocentric view that resource protection is paramount, the argument that agencies empowered to protect resources are obligated to use the most effective means at their disposal in fulfilling this trust: direct management of visitor behavior.

How far society should go in adopting a biocentric policy towards resources is still being debated. From a practical standpoint, the goal of complete protection is probably unattainable. Although indirect management techniques can be effective in combatting resource damage, they will not eliminate it entirely. Complete protection also is beyond the reach of even the most overt forms of direct management (Alfano and Magill 1976). To compound the problem, the increasing impact of "external threats" to cultural and natural resources, such as agricultural runoff, air pollution, urbanization, and acid rain, means that even complete closure of areas to public use will not eliminate resource damage.

We believe that resource management agencies can best meet their statutory obligations through a combination of direct and indirect approaches, including extensive off-site educational efforts to mobilize public concern over external threats to natural and cultural resources. For damage originating onsite, an enlightened policy would employ education and other indirect methods to deal with nonmaliciously motivated behavior, while reserving direct efforts for the control of purposeful damage. Based on prosocial behavior theory, Gramann and Vander Stoep (1987) have suggested a taxonomy of rule violations in outdoor recreation areas based on the reasons for their occurrence, together with the appropriate direct or indirect techniques for dealing with each one. Samdahl and Christensen (1985) have drawn upon ecological psychology

to underscore how the physical characteristics of facilities can promote damage, thus highlighting the importance of design and maintenance in indirect management. Additional research of this type is needed. But more important, its application to resource protection must be encouraged.

Ethical Issues

Many indirect management strategies are examples of behavior modification using "negative reinforcement." Negative reinforcement encourages a particular behavior by stressing the negative consequences of alternative behaviors. Attempts to get people to quit smoking by informing them of the various health hazards associated with continuing to smoke is an example of negative reinforcement. In outdoor recreation, an example is messages that tell visitors about harmful outcomes (such as contracting bubonic plague) that will be avoided by not engaging in a particular action (such as feeding ground squirrels).

The major ethical objection to these methods is that people are being manipulated to act in certain ways without their knowledge or consent (Burke and others 1979). Manipulation results in a loss of self-determination, which is seen as an essential component of "humanness."¹¹ We draw a distinction here between messages educating visitors about harmful outcomes to resources and those about harmful outcomes to people (sometimes called "moral appeals" and "fear appeals"). The major concern appears to be with the second type of warning.

We believe that ethical objections to indirect management are legitimate only when warnings about potential hazards are known to be false. If feeding animals poses a likely danger to visitors, they should be told. In fact, it is probably legally advisable. But if negative reinforcement is used to deliberately mislead visitors into behaving in a desired manner, then the ethical objection against manipulation gains credibility. Any message warning people of personal harm has the potential to exploit irrational or subconscious fears of the environment (Burke and others 1979). For example, many persons have an extreme fear of snakes. Yet a popular device for keeping hikers on trails is to warn them about being bitten by snakes if they leave the trail. Such messages should be used with full awareness that some visitors may respond to them in an extreme fashion. Consider how a snake-phobic mother might react should her child stray off a trail posted with such a warning. If the danger is real, this reaction is acceptable. If the danger is slight, it seems a high cost to pay for reducing local soil erosion and vegetation trampling.

Ideally, a manager would know the probability of serious harm occurring to visitors from engaging in a specific behavior and could weigh this against the likelihood that using negative reinforcement would produce adverse psychological reactions. If the probability of harm was greater, then the warning is justified because in the long run more people would be protected from the hazard than would be adversely impacted by the warning.

In practice, this ideal state is probably not attainable. For one thing, knowledge of risks is often imperfect. Second, a hazard, although unlikely to exist, may have such serious health-threatening consequences that a manager would feel justified in building an indirect management program around it. Our solution to this ethical dilemma is based on the empirical research evaluating visitors' responses to indirect-manage-

ment messages. If the actual reason for trying to change behavior is because specific actions are damaging resources, a moral appeal explaining this impact can bring about the desired change in most visitors. This seems especially true when face-to-face communication is used. Thus, it should usually not be necessary to use fear appeals to mislead people about potential harm to themselves from engaging in an action.

Bystander-intervention programs also present an ethical concern. By asking visitors to report the illegal activity of others, managers may be placing them in a psychological quandary over feelings of obligation to do their duty, while creating fears of reprisal or social embarrassment. This psychological discomfort may be compounded by a moral reluctance to report on or interfere with the behavior of others.

Participants in bystander-intervention programs should not be placed in situations where they feel they are being encouraged to behave counter to their own well-being. Besides being ethically objectionable, such attempts may be largely unsuccessful because people are unlikely to voluntarily assume responsibilities that place them in threatening situations—especially if they feel that the action is the legitimate responsibility of others such as the ranger or campground host. At the same time, visitors may be more than willing to assist with efforts that enhance their own security. Bystander-intervention programs that focus on activities clearly detrimental to resources or threatening to the well-being of others are likely to be successful. Those that involve reporting on activities perceived as relatively harmless may be less effective in gaining participation.

Conclusions

In general, research indicates that if visitors are made aware of a particular problem and are placed in situations where they have reasonable options to behave in a protective manner, rulebreaking and depreciative behavior can decline dramatically. Visitors also can be encouraged to report damaging behavior by others, whether information and requests for help are conveyed by brochures, signs, or personal communication. Face-to-face contact and combinations of nonpersonal and personal communication appear to be the most effective media for achieving behavior change, however.

Thus, if an "effectiveness" criterion is applied to indirect management, norm-activation and bystander-intervention programs are often reasonable alternatives to direct enforcement of rules and regulations. Similarly, policy-related objections to these approaches can be overcome if some resource damage is accepted as inevitable, and if indirect management in the form of broad-based educational programs represents the only solution to external resource threats. Finally, ethical criticisms of indirect management must be taken seriously, but they should serve as guides to developing ethically acceptable programs, rather than as indictments of a useful management tool.

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Vandalism in Rapidly Developing Rural Areas: Consequences of the Changing Meaning of Property Access

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Abstract

Rapidly developing rural areas are subject to increased vandalism. Such vandalism differs substantially from urban vandalism. Frequently, rural vandalism is not recognized as destructive behavior by the violator, though land owners are extremely sensitive to violations. Vandalism may also occur because recreationists feel the use of rural lands is a right rather than a privilege. This paper describes the changes in frequency and interpretation of rural vandalism, and presents a four-step process during which the meanings of land use among land owners and recreationists evolve from the relatively open, free access to closure or fee access. This process, accelerated by increases in vandalism because of pressure from growing populations and because of frustration associated with restricted access, will plague land owners and recreationists for the next several decades in the West. The change will require careful consideration by policymakers because of the relation of the process to violations of prior norms and of legal statutes, as well as a revision of traditional values governing property access shared by property owners and recreationists.

Keywords: Vandalism, rural areas, meaning of rural vandalism.

Introduction

The wide-open spaces of rural areas in the Western United States are perceived as mythic places by many residents and outsiders (Jobes 1979,1986a). The myth of openness, which has some substantive validity, is being sorely challenged in this era of rapid development of energy and recreational resources. Among the greatest conflicts encountered in rural areas are those associated with rural property violations. These problems bear some similarity to urban vandalism; the geographic scale of the land and the differing perceptions of the land owners and violators make rural violations less easily understood than those in the city. Considerable ambiguity exists about rural property use. In addition, rapid increases in recreational use of rural land and in rural populations are demonstrating that traditional mechanisms for preventing and responding to property violations are inadequate and demand modification.

Rural and urban residents share fundamentally similar values and behavior (Pahl 1968, Schnore 1966). They hold common attitudes toward rights of private property; that is, both believe in the right of personal ownership and rights of exclusive control over real property. They also share common attitudes against trespass, theft, and destruction.

Rural and urban residents differ, however, in how they apply their values and behavior to their respective locales. Values and behavior, especially during periods of transition, are in conflict between recreationists and land owners (dark and others 1971). Herein lies one basis for the problems experienced by ranchers and farmers. People coming to rural areas feel that a different and somewhat more lax set of rules operates there than in more densely populated places. Agriculturalists generally have a stricter code than urbanites realize.

A second basis of problems in rural areas is their geographic scale. Acreages are so large in ranch country that only persons with local knowledge recognize where one property begins and another ends. Outsiders frequently do not find out because it is too much trouble. The scale also makes the amount of property exposed to problems great. Patrolling and enforcing for several thousand acres is difficult, particularly when labor is limited and work endless. The scale presents another problem of exposure. Spreads are so large that things of value, for instance buildings and pieces of equipment, have to be left unattended, making them easily vandalized. The value of such items is likely to be unrecognized by the vandals. For example, a tire destroyed by a rifle shot may have been worth several thousand dollars.

Each of these problems is exacerbated during periods of rapid development. The number of potential violators expands as more people unfamiliar with the rules governing access or the property boundaries increases. Tension also increases as ranchers become agitated by seeing more outsiders. Outsiders, sensitive to this suspicion, resent being categorized and excluded. The demographic characteristics of recreationists and development workers—young male adults, full of energy for getting outdoors and testing the limits—add to the problems.

Finally, development frequently causes chaos within the existing community, so that established, informal mechanisms for preventing or responding to property violations are diminished. When coal mines are developed, for example, residents frequently move away. The chance for observing suspicious activities is reduced and no one is

available to call the neighbors. In communities where development is perceived to be causing a qualitative change in life style, polarized attitudes about development are likely. Sentiments for or against change are intense enough to destroy cooperation between long-time residents. When this cooperation is destroyed, people become less vigilant in protecting the property of their neighbors (Gold 1984).

Development frequently brings in new land owners. These new people are not part of the established community. In some rural places, local birth is an essential requirement for full acceptance as part of the informal, face-to-face sharing of personal life that typifies interaction. New people also are likely to have more formal and exclusionary beliefs about land access than old timers have. Those from Texas, for example, where not much land is public, are unlikely to permit hunting or fishing on their new land in the Rockies. Those from urban places, who frequently lack any personal experience with rural areas yet feel powerful romantic attachment to life in them, are generally ignorant about long-established informal rules permitting access. They want their land for their purposes and remain oblivious of any sense of public stewardship. Their closure of access puts further pressure on the already extended access of old timers, increasing the strain on them. This accelerates the process of further closures, animosity, and confrontation, and eventually, property violations (Wyoming Game and Fish Department 1987). Collectively, these reasons for closure among property owners lead to increased agitation among recreationists, which leads to vandalism (Alfano and Magill 1976).

Methodology

The analyses in this paper have been drawn from observations made during research in rapidly growing, rural, natural recreation areas in southern Montana and northern Wyoming. Two communities—one an open-country ranch community with about 90 families in a 490,000-acre area, the other, a town (and surrounding area) that has grown from about 15,000 to 23,000 population between 1973 and 1988—have been studied for roughly 15 years. Panel surveys have been supplemented by observation. See Jobes (1980, 1986b, 1987) for more detailed description of the methodology.

The study of vandalism—or more particularly poaching and trespass—was not the primary dependent variable that motivated the research. The guiding concern was with what social impacts occur as populations grow rapidly in rural areas because of energy or recreational development. The findings on vandalism were somewhat serendipitous. Before development, ranchers rarely reported vandalism problems. After development, vandals surfaced rapidly. Similarly, in towns surrounded by natural-resource development, the closure of access was rarely mentioned before development; there, too, references became increasingly common and bitter among outdoor recreationists as growth occurred.

These observations have been made over a long enough period to identify a process of conversion of rules governing the behavior and beliefs of land owners and recreationists. The author accepts responsibility for the conclusions drawn from these grounded data (Glaser and Strauss 1967). Because the conclusions were not drawn to test specific hypotheses nor to provide quantitative descriptions, none are made.

Definitions and Concepts

"Rural," as used throughout this paper, has a narrow and specific meaning that does not correspond to census or conventional lay language. A more accurate phrase would be "ranching communities in semiarid and desert locales." These are *gemeinschaft* communities: small, relatively permanent, isolated social systems that persist over generations (Tonnies 1957). Residents in such places are treated as **wholes** through face-to-face interaction based on commonly shared behavior and beliefs. That is, persons are **not** treated as fragmented **wholes**, as they typically are in urban settings. Community is the cohesive integrated social system operating in relatively remote geographic areas (Jobes 1986b). Such communities are common and share similar characteristics throughout the Rocky Mountains, Great Plains, and Great Basin areas Kraenzel (1980) referred to as "Yonland."

Before development, people in these types of rural communities differed fundamentally from more mobile, larger, and cosmopolitan places in their manners of interacting. They are accustomed to others sharing their perception and behavior about inappropriate uses of property. They expect to experience few violations of rules governing use of that property. They usually handle violations in informal and personal ways, most frequently a stern reprimand and warning. Realistically, they have few alternatives. Law-enforcement officials are few, far between, and usually unavailable when violations are occurring.

During the past two decades, this informal, personal mechanism for defining rules and enforcing them has become increasingly ineffective. The ubiquitous growth of population and the even greater increase in young recreationists using rural areas has brought more outsiders into places that previously encountered few violations of property, such as destruction, trespass, or poaching (Magill 1976). This process has been accelerated by improved highways and vehicles, more off-road vehicles, more time for recreation, and the closing of rural lands for recreation. As a result, even the most remote areas are experiencing more problems. The societal changes that have generally increased rural-property violations have especially accelerated in rural areas with large-scale natural-resource development, such as mining, powerplants, and ski areas.

Problems Defined

Most property violations in rural areas fall into one of three types of action; trespass, poaching, and destruction of property. Frequently, they occur simultaneously as violators cut a fence, destroy a lock, or obliterate signs to trespass to fish or hunt. Similarly, destruction of livestock and other property with firearms usually occurs during hunting.

If these acts occurred in a city, they would be considered vandalism. In rural areas, the "senseless" destruction of old buildings and signs are frequent examples of vandalism. Rural areas are open to this kind of property abuse. Old buildings and poor fences seem fair game to many outsiders, who may just add another cracked window or loose wire to what they see as a piece of junk. They are participating in erosive vandalism, scarcely aware of doing anything wrong (Madison 1970). Trespass to gain access to property to use it, particularly for hunting, is relatively unique to rural areas. Hunting, gem hunting, artifact hunting, and even picnicking are engaged in to gain special experiences obtainable only through the use of undeveloped land. They frequently are performed with no other misuse of the property.

And they would otherwise be considered appropriate and acceptable, were they performed according to statute on public property. These behaviors hold an ambiguous status as activities that are formally illegal, though tacitly approved by the public, many land owners, and even some law-enforcement officials.

Poaching

Poaching is a tradition with origins probably as old and almost as institutionalized as hunting and fishing themselves. Irish salmon fishermen who take fish with pocket lines from properties owned by the English are admired as outlaws. The Brittany Spaniel was bred, according to lore, to hunt close to its peasant owner and instantly appear to be a lap dog should a game keeper or owner approach the scene. Even now, skilled hunters who enter what locals regard as too tightly closed land, are regarded more as adventurers than criminals by good-old-boy locals. A Governor of Montana was recently cited for poaching.

Poaching has a variety of definitions, generally bound together by the meaning of taking game or fish illegally. The use here is more restricted; the taking of game or fish on property without permission. The means or the season for taking prey are legally defined but are less relevant for the purposes of this paper.

Urban and rural perspectives on poaching may be quite divergent. Because specific data on urban beliefs are lacking, my comments are speculative. Urban people share attitudes with rural people about private property, but they may not understand that ranchers may operate as estates, almost as fiefdoms, denying access not only to their own private lands but to larger tracts of public lands as well. Urban people may also construe poaching as endangering game populations. Although excessive poaching would endanger populations, it may act relatively independently. Serious overgrazing by game occurs on many properties because of inadequate game harvesting, which, in turn, can destroy haystacks, fields, and orchards on adjacent properties.

The Evolution of Restrictions and Poaching

Farmer's and ranchers have several reasons for objecting to poaching. The reasons generally reflect the desire to control their property rather than to worry about endangering game. Owners range from traditional ranchers who freely grant permission for use of lands all the way to owners who lease hunting rights. The range and process of gradually restrictive rights and increasing vandalism are shown in figure 1. Most ranchers who have experienced relatively few property violations retain the traditional attitude that they are stewards of their land and grant permission for its use, with specific provisions. They want to meet the people hunting and fishing on their land, to direct them where to hunt, and to limit their numbers. They want to share their property while effectively managing it. Traditional ranchers are more annoyed than incensed by poaching and trespass: they see it as unnecessary. "All they would have had to do was call me or stop by, and I would have given them permission" is a frequent comment. Although they are annoyed by unannounced visitors at 5:30 a.m., they also look forward to the same familiar and trustworthy visitors year after year. Many receive gifts or help with farm work as expressions of appreciation. Their land is typically unposted or posted in a manner that specifies permission will be granted.

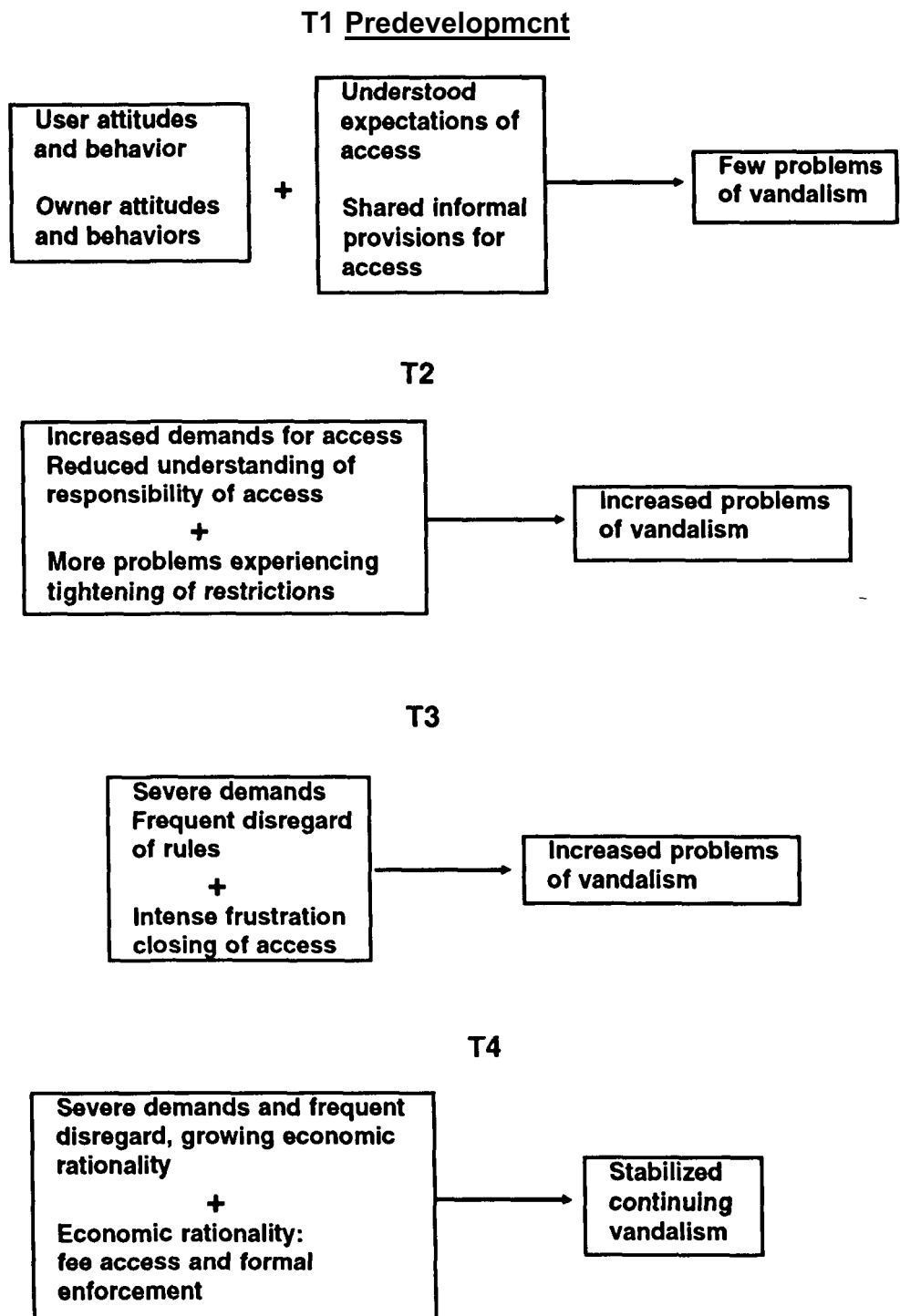


Figure 1—The evolution of user and owner perceptions of access associated with rural vandalism.

Traditional ranchers tend to be disgusted and somewhat fatalistic about violations. "Somebody shot a young buck and just left it in the cooley. They (the poachers) could have at least hauled it out," is the kind of comment reported dozens of times. The ranchers concern is less for the game populations than it is about "human nature": some people are morally weak, and they make it hard on both ranchers and trustworthy hunters. Traditionalists are concerned with monitoring game; they frequently indicate disagreement with game counts or licensing by fish and game departments. "Not that many deer are around here this year, so I am not allowing any hunting after the first couple of weeks of the season" indicates their concern for monitoring the game resources on their property. Most ranchers like having game on their land and take pride in a life style that lets them live with nature. They seek to protect it. "You can shoot all the Hungarian partridge and sharptails you want, but leave the ringnecks alone. Their numbers are way down since the drought. I want to save all of them for seed stock."

Traditional attitudes are decreasing. They are rapidly lost as land-use pressures increase. The next level of response to control property reflects a shift to a more defensive attitude about permission. Tired of excessive use and angered by extensive violations, such property owners post their property and give permission very selectively. They frequently were traditionalists who have become much more restrictive. "I used to let anybody hunt who was willing to drive all the way out here and ask. A couple of years ago, I locked my place up unless I know the people. Somebody blew the windshield out of my grain truck. Then a horse and a cow were shot. That was enough for me." These restrictions often are difficult for ranchers. "I really hated to do it." And the restrictions have unanticipated consequences. "Since I posted my place, **nobody** but poachers comes out here anymore. A few oldtimers from Douglas (the nearest town, 35 miles away) hunted here for years. I even let them fish my stock pond. I never meant to keep them away. I have thought about calling them before next season to invite them out."

The next level of restriction is a final closure of property to anyone except immediate family. Even neighbors and friends are excluded. This closure is sometimes intended to protect land owners from legal threats. "I had let a few people hunt here until two years ago. Then a guy from Great Falls came out here, got drunk, got lost, and almost froze to death. He tried to sue me for failing to warn him that hunting on my property was dangerous. My insurance company won the suit. But they told me to completely close the property to hunting. Believe me, I was ready to, though I wish a few friends could still use the place."

Commonly, this level of closure of property emerges out of a sense of outrage. These ranchers are frequently distraught. After an otherwise low-key interview with a 68-year-old cattle rancher, I asked a few final questions about problems that accompanied energy development. His jugular began to pulse and his face turned red. His pitch grew higher and louder. For the next 45 minutes, he told of the problems he and his sons had on their roughly 80 sections of land. Fences had been cut by four-wheel-drive vehicle drivers. Livestock had been shot and buildings had been ransacked. Two weeks earlier, the gate to his bull pen had been left open, and prized Charolais bulls got in with carefully bred heifers, which threw off more than a decade

of painstakingly recorded breeding. He was ready to sell out, exhausted, and he had let his sons know he would understand if they felt the same way.

The quality that ties these first three types of ranchers and farmers together is that they would like to share their land. Eventually, they feel too violated to permit it any longer. Much of their attachment to the land is romantic, based on values of trust and sharing. Their use of the land is more than a business venture, it is an integral part of their way of life. The intensity of feeling becomes much like trespass might be for urban people: their personal property and their life have been violated. As one rancher who was still permitting restricted hunting put it, "Every year tourists stop and picnic down by the creek. You would never know most of them had ever been there. I don't mind them. But a couple of times a year, picnickers leave trash. By the time I see it, it is scattered all over the place. I often have felt like having a picnic in town on somebody's lawn without asking them. Hell, even if I picked up the papers, the homeowners would be irate." For ranchers and farmers who make their living from the land, who have a unique life style because of where they live, and who want to be friendly to recreationists, violation is more than a fragmentary instance of life as it might be in the city. It is an attack on their whole way of life.

Conversion to Economically Rational Access

The traditional categories of ranchers are distinguished from others who treat access (Q) (their property in purely economic terms. Irate ranchers from the last two categories described above sometimes resolve their anger by adopting a rational economic system, that is to profit from the recreational use of their property. The easiest way is to lease access rights to professional outfitters. Some of these leases are worth tens of thousands of dollars per year. In addition to the profit, which is welcome in the economically marginal world of agriculture, the hunters are carefully monitored and covered by insurance, and animal populations are protected.

Many of the ranchers who treat access to their property in pure economic terms are recent arrivals who bring such an attitude with them. Lacking familiarity with the more traditional rules of sharing land, they impose narrow and rigid criteria of profit taking. Many of them—and this life style is increasingly common—are absentee owners, who use their agricultural property as a tax write-off and a private recreational preserve.

Economically rational land owners create especially hard feelings among recreationists and more traditional land owners. Recreationists lose the use of the land. Many feel they are being told they are inferior. "When I see those Double U (posting) signs, I feel sick and mad. Those rich guys just fly in and use it for themselves. Those of us who live here can't even set foot on the place." Recreationists also know the game belongs to them and resent land owners' profiting from charging a fee for what the hunters own; thus, violations may be the angry taking of what they feel rightly belongs to them or a protest against being closed out (Madison 1970).

Traditional land owners frequently express anger about other owners who profit from charging for access. They resent the pressure it puts on lands that remain open. "I feel like I am one of the few guys around here who is interested in doing things right by still allowing people on my place if they ask permission. Since the Carlson's and the Czanzecks have leased their places, I get a lot more calls for permission. True

Merit (an outfitter from out of State, who organized a leasing association that eventually failed) has been trying to lease my place since he came here. It would be easier and more profitable, but I would be letting a lot of people down. Besides, I caught him taking hunters on to my place up by the Butte at the end of last season. I told him to get out and stay out or I'd have the warden jerk his outfitter's license."

Outcomes and Current Events

In spite of the strong rhetoric from traditional land owners, most will capitulate to economic rationality if conditions become severe enough. In two vast areas I studied, essentially no hunting with permission is granted now. In 1970, access was generally given freely. One area, near Yellowstone Park and recreational developments, has experienced considerable immigration from out of State. Recreational pressure multiplied, and access became very valuable. In the other area, near coal mining and power-plant construction, many of the local ranchers moved away. Most retired, and the younger ones bought remote ranches elsewhere. They liked the traditional life and were being driven from it by frustration because of the development. Those who remained closed their lands, indicating a self-selection process among the economically rational ranchers.

These immediate structural changes exemplify the local effects of development that lead to increased property violations. More global and generalized changes also are occurring that are increasing property violations. In the Rocky Mountains, as well as throughout rural areas in general, beliefs of rural people about their obligation to permit access have evolved. In some States, this obligation has become clearly codified. Stream access below the high-water lines are provided by law in California and Montana. These laws were passed to guarantee rights that were formerly taken for granted but had become withdrawn. Legal confrontations are currently occurring in Wyoming and Montana to prevent fee hunting, which has crept up from the southern Rocky Mountains. Two issues are primary: the right of public access to privately and publicly owned lands and the ownership of game, which is public property under the responsibility of the State. Land owners who refuse access to game are denying the right of the public to its property. Meanwhile, land owners feel their right to control their property is being threatened by legal provisions for access to the public or by legal restrictions governing how they may exploit their land for profit.

Summary and Conclusion Much rural vandalism occurs in a context of disputes over rights of property access. Poaching and trespass are the most common forms. Violators usually know they are violating the law or are legally responsible for knowing. Many commit violations out of anger, feeling they should have the right to hunt and fish where they please. Degrees of irresponsibility exist among rural vandals, however (Williams 1976). Although many are acting as temporary anarchists outside the law, others are expressing resentment with recent restrictions to access. These changes can be understood in the context of changing interpretations of the meaning of property access, particularly for public fish and game.

The struggle over property rights includes more adversaries than land owners and recreationists. Land owners, themselves, differ and disagree. Traditional land owners frequently hold values in common with responsible recreationists. They are at odds with owners who perceive land as a medium of profit for any purpose they

choose to define. Economically rational owners and those who completely exclude public access receive the brunt of vandalism.

Rapid development in a rural area creates unprecedented increases in demand for outdoor recreation. This pressure leads owners who remain in the area to gradually tighten rules of access as they experience more problems. Many move away out of frustration. Newcomers, lacking a traditional orientation of public stewardship, close lands. Old timers who remain eventually also become economically rational, to protect themselves from increasing frustration as well as to profit from the charges for access. This process signals a profound redefinition of the meaning of property access. It also indicates how this redefinition occurs, in part, as traditional values are exchanged for economically rational ones. This exchange is a toss to users. A few land owners benefit, though they may suffer from increased vandalism. Wealthy recreationists benefit by privileged access, though the costs may be \$200 per day.

This process appears inevitable as the population of recreationists expands, and the attitude of economic rationality emerges around the use of recreational lands. Rural vandalism will undoubtedly increase, too. Methods to reduce illegal acts will not come easily. Expanded public access to as many traditional recreation sites as possible probably will reduce some of the frustration experienced by recreationists who would otherwise further resent closure of private properties. Increased public access might also reduce frustrations among land owners inundated by recreationists.

Another issue that must be confronted is the right of public ownership of game and fish. Land owners must be made responsible for the well-being of game. If they choose to share that responsibility with the public, then public assistance must be forthcoming to them. If they choose not to share with the public, they must not be allowed to discriminate and inequitably permit access for profit. If land owners are allowed not to share responsibility for fish and game, then they are effectively being given ownership of what is a public resource. Although none of these alternatives would eliminate rural vandalism, turning over the public resource to the public would formalize its existence, guarantee its perpetuation, and require stricter and harsher enforcement.

Policy decisions will place policymakers and law-enforcement officials in a dilemma no matter how they act. The process described requires a shift from traditional and informally administered values, which law enforcers realize. They have trod a fine line between being a game manager for the public and a law-enforcement official for both public and private interests. They are familiar with informal rules and have preferred to allow the informal system to serve the interests of both parties. This neutral position in fact was a form of advocacy for both the public and private interests. Closure of access puts them in a far less popular position, enforcing more while offering less for the public. Policymakers face a similar dilemma. Stricter protection of private lands will serve the interest of a continually declining number of land owners while depriving an increasing public of rights they have traditionally enjoyed.

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Vandalism: research, prevention, and social policy. Gen. Tech. Rep.
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Service, Pacific Northwest Research Station. 277 p.

This book is an examination of how vandalism is being approached through research, law enforcement, education, design, understanding human behavior, innovative ideas, and integrated Jarograms. An introductory section provides theoretical and empirical perspectives on vandalism. Chapters describe the role of research in designing against vandalism, psycho-social definitions, and new orientations toward deprecative behavior. Empirical studies of an urban youth subculture, characteristics of (railhead vandalism, effectiveness of trailside sign texts, and a brochure on reducing vandalism are presented. Another section provides perspectives on vandalism policy and prevention by urban managers, including responses by transit agencies in two major metropolitan areas and responses by various communities toward graffiti and other forms of vandalism. Other chapters deal with preventing vandalism to archeological and recreational sites. Coverage includes rock art vandalism and cultural resource site protection on public and Indian lands. Concluding chapters discuss indirect management to protect cultural and natural resources and vandalism in rapidly developing rural areas as influenced by the changing meaning of property access.

Keywords: Vandalism, research, social policy, prevention, archeology, cultural resources, depredative behavior.

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