

NEW DIRECTIONS IN LEISURE

VANDALISM CONTROL MANAGEMENT FOR PARKS AND RECREATION AREAS

Christiansen

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In addition to this volume, he is the author of the *Park Planning Handbook* and numerous articles on facility planning and management. He has spoken on vandalism control to park and recreation professionals throughout the United States.

Vandalism Control Management for Parks and Recreation Areas

by Monty L. Christiansen

The Pennsylvania State University
University Park, Pennsylvania

Prepared for the National Park Service
Park and Recreation Technical Service Division
Northeast Service Area

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The NEW DIRECTIONS IN LEISURE SERIES is based on the recognition that recreation, park and leisure services are in a period of fundamental change and must respond quickly. While leisure is becoming a more important part of life, the organizations providing leisure services are being challenged to leap, not into the future, but into the present. Doing this will require new ideas and a better information base.

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Section One: Introduction

Vandalism has become a perennial drain on the budgets of park and recreation agencies. Nationally, the cost to these departments because of vandalism has been estimated to be over \$500 million a year (49). Too often the actions of park visitors--sometimes as recreationists, frequently as trespassers--cause damage to the environment, facilities, equipment, and areas which have been entrusted to public park and recreation agencies.

SOCIAL AND PHYSICAL PERSPECTIVES OF VANDALISM

Park vandalism is as varied as the multitude of wrongdoers who are involved, the activities they are engaged in, their motives, and the damage caused. Vandalism may be planned or impulsive, prearranged or opportunistic, deliberate or unintentional, purposeful or irrational, minor or major, obvious or barely noticeable, progressive or singular . . .; the perpetrators may be male or female, an individual or group, youth or adults, intoxicated or sober, affluent or poor, caught or unapprehended . . .; the incident may occur during the day or night, in remote areas or heavily-used sites, surreptitiously or blatantly, in the summer or winter, in the city or the wilderness . . .; the results may be insignificant or catastrophic to public safety, cause no problem or render a facility useless, cost-free or expensive to repair

In other words, vandalism is an umbrella description of many problems. It is unrealistic to expect to find "THE solution" (singular) to such a collection of complex problems, but it is possible to eliminate some forms of vandalism, minimize others, as well as reduce the damage and cost of those forms which inevitably occur.

An initial step to identifying and evaluating proposed solutions to vandalism is to first accept this pluralistic, or complex, nature. Here vandalism is defined from social, physical, and financial perspectives:

Van'dal-ism (n) 1. Actions or behavior of an individual or group of individuals which may result in destruction or damage to property; i.e. to vandalize (vb) a park.
2. Consequences or results of such actions on facilities, equipment or areas; i.e. the vandalized (adj) park.
3. A type of reoccurring, often unnecessary, expense for park and recreation agencies.

The ultimate objective of a management system for vandalism control is to reduce unnecessary expense by using the most cost-effective approaches, including appropriate social and physical strategies. There is no single universal solution; behavior (actions) and its consequences (damages) are separate but related aspects of the total problem.

It is important to maintain a balance between vandalism reduction and park usability, maintenance, aesthetics, and the environmental and cultural contexts of the park and recreation areas. Each park has a unique quality which must be recognized in order to select the proper combination of vandalism-reducing strategies. This manual can provide a tool for managers and administrators as they try to control vandalism in their local parks and recreation areas.

USING THIS MANUAL

This manual was prepared for a variety of park and recreation officials: administrators, park superintendents, maintenance supervisors, facility directors, programmers, as well as park designers, planners, and other public officials. It is primarily written for practitioners, but students and applied researchers may find it of value as well.

Vandalism control management (VCM) as described here is a comprehensive process for park and recreation departments. It offers a systematic program to reduce costs through problem definition, behavior interpretation, objective setting, data collection, strategy selection, implementation, assessment and follow-up. As part of the process, documentation of baseline facilities' conditions, incident reports, periodic inspections, and strategy implementation tracks the VCM program for changes and provides a quantitative comparison for evaluation. These data can suggest revisions and modifications for improvement as the program is applied, as well as providing necessary documentation of agency reactions to individual incidents important for liability if a park visitor is injured due to a vandalized facility. These records are also very useful for budget justification.

This manual may be used as a guide in the development of agency-wide VCM programs, as a training manual for in-service workshops and other staff training, as a desk reference for suggestions regarding specific problems, or as a sourcebook to identify other agencies who have attempted one or more of the VCM strategies discussed.

ORGANIZATION

This manual is organized into five sections, with three additional appendices. This first section, the Introduction, has established the complexity and variety of the meanings to the collective term 'vandalism.' The intended audiences are identified and the benefits of a comprehensive vandalism control management program are noted in this section and suggested uses for the material are noted.

The second section discusses how to assess the problem of park vandalism. It also outlines the necessary record systems and how to analyze the information. A classification system of vandalistic damage, a severity scale, and repair priority ratings are included.

The third section identifies the advantages and process of establishing quantifiable VCM objectives. The value of using staff participation and park users in this process is also discussed.

The fourth section contains a detailed and itemized list of social and physical VCM strategies, from use of publicity, public education, rule enforcement, general operations, interagency and community group cooperation to design and maintenance. Examples of actual applications are identified for possible personal inquiries.

The fifth section is an overview of the recommended VCM program. It has a summary of each of the principal steps in the implementation evaluation and follow-up. There are cross-references to relevant sections of the manual for details.

The appendices are supplemental materials which contain in-depth information.

- Appendix One contains a list of recommended references selected from the bibliography because of their outstanding and comprehensive coverage of vandalism in parks and recreation areas.
- Appendix Two is a glossary of vandalistic behavior. It identifies who vandals really are and why they vandalize facilities. Instances are identified where participants are generally aware of the consequences of their behavior--and may even perceive their actions as justifiable--as well as instances of vandalism where participants are generally unaware of the consequences, but are vandalism nonetheless.
- Appendix Three is a compendium of vandalism control techniques which have been used by park designers and maintenance personnel. These techniques, found from numerous sources, are categorized for quick reference and review. Both successful techniques and those found to have disadvantages, which are noted, have been identified in field use. Follow-up contacts are keyed to the bibliography for possible individual correspondence.

Section Two: Assessing the Problem of Park Vandalism

In order to have an effective vandalism control management program, an agency must approach the task with understanding and a positive approach. The objective is not to eliminate all vandalism--that's not realistic nor practical. Vandalism is a multi-faceted problem, with a variety of damages caused for a variety of reasons, by a variety of individuals. The object is to reduce it to manageable levels.

Park vandalism control management (VCM) must be cost-effective. While it is possible in concept to purchase equipment and facilities developed to withstand severe attack, use sophisticated surveillance systems, employ well-trained law enforcement officers, and attempt to eliminate vandalism by committing a huge budget expenditure to it, this is not good park management. Agencies must not invest in vandalism control expenditures which would exceed the potential savings.

Before making any investment, an assessment should be made of the type and extent of vandalistic damage which occurs in each park. This assessment can determine which facilities are most frequently vandalized, identify the predominant kinds of damage, establish priorities for repair or removal, and provide data necessary to develop a park vandalism control management (VCM) program.

The best way to record the needed information is to use standardized surveys. Three steps are needed: (1) a baseline facility conditions inventory, (2) a periodic inspection, and (3) incident reports for each occurrence of vandalism.

BASELINE FACILITY CONDITIONS INVENTORY

For comparative purposes, it is necessary to have a program initiation, or baseline, facility conditions survey. This is an extension of the park facilities inventory, which is probably already available. Examples of similar damage surveys are those done prior to packing and loading equipment by a moving company or by a landlord prior to leasing an apartment. Just as these "baseline" conditions are compared to those of the moved equipment upon arrival of its destination, or the facility upon evacuation of the leased premises, so also does the park facility condition inventory provide a basis for comparison. **See page 23.**

The facility conditions inventory is a standardized, uniform and reliable method of recording the location, item damaged, type and extent of damages noted. The location should be specific: park name, activity area or facility (these can be readily coded, using the existing park object code number used for budgeting as well as the facility maintenance record code). The item damaged can be named, or identified, from a uniform agency list of park items most commonly vandalized. The following items have been identified by numerous federal, state, and local park agencies as common targets for vandalism listed in order of frequency of vandalism, with the first being damaged most often (22, 23, 24, 25, 28):

- signs and markers
- picnic tables
- garbage containers or dumpsters
- toilet commodes and urinals
- benches
- building interior (walls, partitions, ceilings, floors)

building exterior (walls, door)
 trees and bushes
 fencing and gates
 light fixtures
 drinking fountains, pumps
 windows
 shelters
 bathhouses
 roads and parking lots
 fire rings, grills, ovens
 sinks and wash basins
 play apparatus
 roofs
 electric outlets

Classification of Vandalistic Damage

The type of damage can be quickly noted from a uniform generic classification system such as the one used in this document.

<u>Category</u>	<u>Type of Damage Due to Vandalism</u>
1	Breakage
2	Surface graffiti or marking
3	Disfigurement
4	Dissassembly or removal
5	Burns
6	Blockage
7	Vegetative Damage/loss
8	Miscellaneous

Here are the definitions of each damage category and examples of park items which typically are targets for each abuse:

► Breakage--Fracturing, shattering, smashing, or crushing apparatus, equipment or facilities, or parts thereof.

Common examples of park items which are broken by vandalism:

Glass or Plastic--windows, mirrors, display cases, lamp covers, switches

Wood--slats, boards, posts, benches, tables, doors

Metal--pipes, posts, poles, hardware, locks, fixtures

Stone, concrete, masonry, ceramic, or porcelain--furniture, fixtures, partitions, statuary



Illustration 1. Porcelain restroom fixtures are susceptible to breakage possibly caused by a variety of vandalistic motives.

(Photo courtesy of the Long Island, NY State Park and Recreation Commission)

Breakage is frequently the result of wanton, vindictive, or malicious vandalism. It may also result from vandalism for gain, expedient play or negligent vandalism. (See Appendix 2 for explanations of the various reasons for vandalistic behavior.)

- Surface graffiti or marking--Superficial writing or drawing on, or discoloring the surface of a wall, door, partition, panel, sign, or other facility or apparatus.

Examples of common surface graffiti media include pens, pencils, flow markers, crayons, lipstick, paintbrushes, aerosol spray paint, and chalk. Marking is



Illustration 2. Graffiti is a form of vandalism which has public disapproval because of the messages, often in vulgar street language, rather than the defacement. Some park architecture has obvious 'billboard' components that invite graffiti. (Photo courtesy of the Essex County, NJ Department of Parks, Recreation and Public Affairs)

accomplished by spraying or throwing paint; throwing eggs, bottles of ink, mud, etc. Both graffiti and marking are characterized by surface--or superficial--blemishes rather than actual physical damages to the finish.

Graffiti is, perhaps, one of the oldest forms of human communication. Prehistoric rock paintings (called 'pictographs' by park archaeologists) can be priceless cultural artifacts; contemporary rock paintings (called 'rock graffiti' by park administrators) can be expensive blights on our natural environment.

Today's graffiti is usually the result of tactical, play, imitative, boredom, or ritualistic vandalism. (See Appendix 2 for explanations of these forms of depreciative behavior.)

Fortunately, most surface graffiti is rather innocuous. With a few notable exceptions, marking or writing on the surface of most materials does not permanently harm the facility or resource. The disapproval with which graffiti is commonly regarded is due either to the vulgar expressions or controversial statements written or to the unsightly and unattractive marks and pictures left for others to see. The person who writes on a wall is usually condemned (if at all) for the context of the message, not for the writing of it. It is even considered by many to be legitimate to reply to such writings, or to change them (34).

Graffiti, smears and marks can be differentiated by the way they are made--either direct contact application or sprayed/thrown application. Painting, writing, and drawing with pens, pencils, brushes, markers, and

lipstick are 'direct contact applications.' Pelting, spattering, spraying, splashing, or throwing paint, ink, eggs, mud, etc., are examples of 'sprayed/thrown applications.' This distinction is important when selecting strategies for incident prevention.

Direct contact applications of graffiti and marking are more apt to be the result of impulse and opportunity since pens, pencils, lipstick are typically readily available in park users' pockets or purses. Sprayed/thrown applications may be more apt to be premeditated because the ammunition (bottles of ink, aerosol cans of paint, eggs, etc.) must be obtained and brought to the site. It is possible to make more difficult the use of pens, pencils and other direct contact media on certain surfaces, but it is a rare finish that can discourage sprayed or thrown applications.

► Disfigurement--Scratching, cutting, denting, carving, gouging, or penetrating through the surface, either exposing the undersurface or making a hole completely through the item.

Typical implements used for vandalism by disfigurement include knives, nails, hard rods or sticks, and firearms. The instrument of vandalism will vary according to the hardness and proximity of the target.

Disfigurement is frequently the result of vindictive, tactical, play, imitative, boredom, or ritualistic vandalism. (See Appendix 2.)



Illustration 3. Soft wood picnic table tops are commonly disfigured by individuals who carve or scratch initials or messages into the surface. (Photo by M. Christiansen)

Common examples of materials frequently vandalized by disfigurement:

Soft wood

- Parts of park furniture such as picnic table tops, bench seats or backs, signs, or posts.
- Siding, doors, partitions, walls, or ceilings of buildings or shelters.

Plastic and paint

- Polycarbonate or acrylic windows, protective covers, or shields.
- Plastic table tops, counter tops, partitions.
- Paint on any surfacing.
- ABS, PVC, or other plastic items.

Fresh concrete

- Newly poured walks, flooring, decks, etc.

Soft metal (aluminum, copper, tin, nickel, lead)

- Cast signs, figures, or plates.
- Rolled and stamped sign blanks.
- Siding, partitions, doors, roofs, or other metal building members.

Rubber or other synthetic materials

- Belt swing seats.
- Resilient surfacing under play apparatus.
- Recreational or sports surfacing.



Illustration 4. Brightly colored park signs which are placed in conspicuous locations as safety warnings are frequently disfigured by target shooters. (Photo courtesy of the Forest Preserve District of Du Page County, IL)

-
- Disassembly and removal--Unfastening screws, bolts, nuts, nails, or hinges to take apart a piece of equipment, apparatus or facility.
-

Typical disassembly implements include mechanic and carpenter tools, Swiss army-style knives, eating utensils, and fingernail files.

Common examples of park targets which are vandalized by disassembly and removal are doors, gates, access panels, signs, benches, play apparatus and sanitary fixtures. Usual motivations include vandalism for profit, expedient vandalism, inquisitive vandalism and boredom. (Defined in Appendix 2.)

Plastic and paint

- Polycarbonate or acrylic windows, protective covers, or shields.
- Plastic table tops, counter tops, partitions.
- Paint on any surfacing.
- ABS, PVC, or other plastic items.

Fresh concrete

- Newly poured walks, flooring, decks, etc.

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Illustration 5. Park signs are popular souvenirs. Too many are easily disassembled and removed. (Photo by M. Christiansen)



► Burns--Combustion, charring, scorching, or singeing of flammable materials.

Typical implements used for vandalism by burning include a cigarette, match, lighter, hot coals or embers from grills or camp fires, and even a magnifying glass. Deliberate fires may be torched using readily available liquid fuels such as gasoline or charcoal lighter fluid, etc.

Common examples of park facilities which are vandalized by burning:

Wood--resulting in major fire damage (i.e., potential facility destruction).

- Structures such as shelters, restrooms, kiosks, or play apparatus

- Furniture such as picnic tables, benches, and waste containers
- Vegetation such as standing dead trees, dry brush, grasslands

Wood--resulting in minor fire damage (i.e. typically cosmetic marring or blemishment)

- Parts of furniture, such as picnic table tops, bench seats or backs, signs or posts
- Siding, doors, partitions, walls, or ceilings of buildings

Plastic and paint

- Polycarbonate or acrylic sheets; plastic covers, bags, or other containers
- Painted metal partitions, doors, signs
- Exposed plastic pipes, gutters, downspouts, and other molded components (Note: Acrylonitrile Butadiene Styrene (ABS) and Polyvinyl Chloride (PVC) plastic release poisonous gas when burned)

Miscellaneous flammables

- Refuse in bulk solid waste containers
- Upholstered furniture, curtains, carpeting

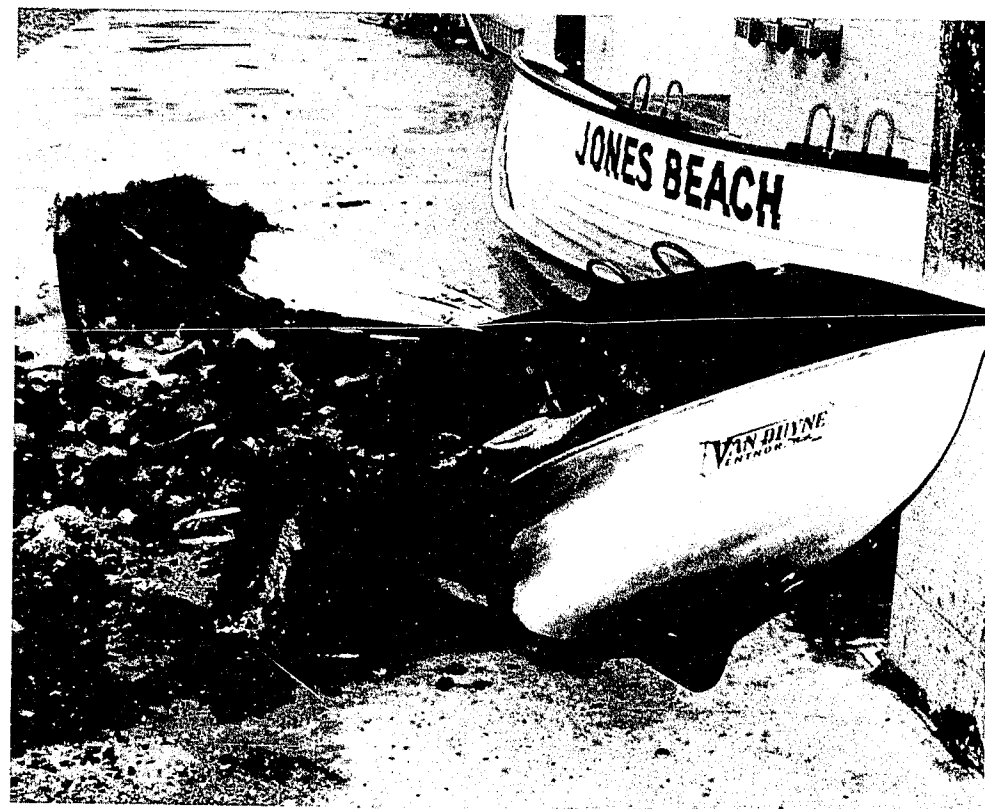


Illustration 6. Arson can be the most destructive form of vandalism, destroying an entire facility. (Photo courtesy of the Long Island NY State Park and Recreation Commission)

- Paper towels, toilet paper and bulletin boards
- Park vehicles
- Synthetic recreational or sport surfacing

Vandals use fire for several reasons--vindictive, malicious, tactical or negligent vandalism. It is frequently the result of psychotic and inebriate

behavior. (See Appendix 2 for a discussion of these forms of vandalistic behavior.)

Arson--deliberately setting a fire--is potentially the most destructive form of vandalism. Arson may completely destroy entire structures or hundreds of acres of park land. There is very little reference to control of fire vandalism in the topical literature.

► Blockage--Obstructing, plugging, or stopping utility supply or waste lines.

The most common targets are sanitary fixtures, i.e., toilets, urinals, lavatories, sinks, and drinking fountains; other wastewater drain inlets; as well as electric receptacles and lamp sockets.

Vandals typically use readily available materials to block these fixtures--toilet paper; paper handtowels; an individual's t-shirt, sock, or sneaker; sticks; rocks; and sand.

Blockage is usually the result of vindictive, play, inquisitive, or tactical vandalism. (These vandalistic behaviors are discussed in Appendix 2.)

► Vegetative Damage/Loss--Breaking, chopping, burning, nailing, making ruts or removing trees, shrubbery, flowers, turf or groundcover.

This category is different from the others in that the previous types of vandalism are based upon the method or result of vandalistic behavior. The common element in this category is the generic target of these actions: plants. It is usually the result of vindiction, inebriate, acquisitive, predatory, play, or negligent vandalism. (See Appendix 2.)



Illustration 7. Making ruts in ballfields, putting greens or other park turf or ground space requires a large amount of extra maintenance cost from agency budgets each year. (Photo by M. Christiansen)

Severity of Damage

The extent or severity of the damage is a judgment of the degree of harm caused by the vandalism. There are several ways to note the extent of damage:

- a) Impact upon the utility of the item (26).
- b) Estimate of cost to restore it to original condition (27).
- c) Impact upon park user and services (12).

Priority Rating Scale

A priority rating scale should be established as maintenance policy for the agency. This rating should be based upon the impact the vandalism has had upon the safety of people and wildlife, disruption or suspension of park services or programs, and the creation of social, moral, or aesthetic displeasure of the public. The following priority scale is given for an example:

Priority 1: Imminent serious danger to park users/employees/wildlife.

Example: A large container of brushkiller or some other toxic chemical taken from a maintenance storage shed and emptied into a swimming pool during the night.

Priority 2: Potential danger to park users/employees/wildlife.

Example: A number of glass bottles broken and left throughout a children's playground.

Priority 3: Disrupts or suspends major park programs or services.

Example: The sanitary facilities in the park's only restroom broken and the sewer line blocked with rocks and sticks.

Priority 4: While not disruptive of use, the vandalism has high visibility or social impact.

Example: The exterior of a heavily-used community center sprayed with large graffiti which defamed or slandered a local resident or organization.

Priority 5: Not disruptive of use, low visibility vandalism.

Example: An unpainted wood picnic table with several new sets of initials and dates scratched on the top over the weekend.

After a baseline status report of all the parks and facilities has been obtained, it is possible to accurately note and document changes--both positively as adaptive maintenance corrects the damages originally identified as well as when pre-incident VCM strategies are implemented and, negatively, when more vandalism occurs. Two procedures are necessary to do this--first, the completion of a thorough, periodic inspection which is documented by an itemized inspection form and, second, the establishment of a mandatory vandalism incident reporting procedure--again, documented by a clear report form (86). Use of documenting forms are emphasized to insure accurate records, good communications to the proper maintenance supervisor for work scheduling, and as a trackable log of actions taken by the agency for possible liability litigation in case of injury to park users due to the vandalism. Analysis of these reports can identify--on a park, region, or agency basis--such information as common targets of vandalism, frequency of attacks, extent of damages for each item, type of damage peculiar to each item, longitudinal and system-wide patterns, and problems unique to certain parks. It can provide useful data for evaluating strategies. It can also provide quantifiable data to measure agency achievements toward the VCM objectives.

BASELINE PARK FACILITIES CONDITION INVENTORY

PARK: MITTANY VALLEY
I.D. Number: 1264
DATE OF INSPECTION: MAY 3, 1983
NAME OF INDIVIDUAL CONDUCTING SURVEY: M. CHRISTIANSON
FACILITY/ITEM: LIONS PICNIC SHELTER
Object Code: 1264-6
PART: _____

A. CONDITION RATING

Rating	General Condition
[5]	EXCELLENT--No maintenance needed.
[4]	GOOD--General scheduled maintenance required.
[3]	FAIR--Limited restorative maintenance required.
[2]	POOR--Moderate restorative maintenance required.
[1]	SEVERELY DAMAGED--Major restoration or replacement required.

NOTE: If Condition Rating of item is 3 or less, record the following -

B. TYPE OF DAMAGE

Category	Type of Damage
[1]	Breakage
[2]	Surface Graffiti or Marking
[3]	Disfigurement
[4]	Disassembly or Removal
[5]	Burns
[6]	Blockage
[7]	Vegetative Damage/Loss
[8]	Miscellaneous (Describe: _____)

C. SEVERITY OF DAMAGE

Category	Impact upon Utility of Damaged Item
[1]	Item has minor cosmetic or easily repairable damage--item still functional.
[2]	Item has significant cosmetic or structural damage, but is still functional.
[3]	Item is dysfunctional, major repair necessary.
[4]	Item is completely destroyed or removed; replacement necessary.

D. MAINTENANCE PRIORITY RATING

Priority Classification	Description of Situation
[1]	Imminent serious danger to park users/employees/wildlife.
[2]	Potential harm to park users/employees/wildlife.
[3]	Disrupts or suspends major park programs or services.
[4]	While not disruptive of use, condition has high visibility or social impact.
[5]	Not disruptive of use, low visibility of damage.

PERIODIC INSPECTIONS

It is recommended that a periodic inspection be systematically performed as a matter of routine to document any damage that might not be noted during the usual day-to-day scheduled workload of the park maintenance personnel. Most agencies already use a periodic facility condition and safety inspection form. This could be adapted with little revision to enable the agency to separate vandalism damage for an accurate VCM program analysis.

Several agencies have found it useful to use non-maintenance personnel such as park rangers or recreation staff to conduct these inspections. This has the effect of obtaining objective reports from people who are not responsible for daily routine maintenance of these facilities (and who may, because of the daily familiarity, not notice gradual progressive deterioration or damage). Another advantage of period inspections by park rangers is that they personally are made aware of high incident locations and types of damages and can modify security schedules and patrols to check these more frequently (86).

Maintenance personnel from other parks are also effective inspectors. These people may be using some successful techniques which they take for granted but have not been tried elsewhere.

INCIDENT REPORTS

Incidents of vandalism should be reported immediately for two principal purposes: (1) to initiate procedures for prompt remedial action, especially if the damage poses a danger or causes a major disruption of service or programs, as well as (2) to provide accurate and timely information which will permit the agency to make cost-effective vandalism control management decisions which might affect maintenance strategies (such as whether to restore to original condition, to make adaptive repairs to modify the original facility to a higher level of vandal resistance, or to remove the item entirely at this time).

Enclosed is a Vandalism Incident Report Form (Figure 8.) designed to be completed by hand (10), and an optically scanned computerized Vandalism Incident Report Form (Figure 9), which was developed at The Pennsylvania State University as a quick vandalism reporting and analysis instrument (27).

COUNTY OF ERIE
DEPARTMENT OF PARKS, RECREATION AND FORESTRY
VANDALISM REPORT FORM

1. PARK Nittany Valley

2. DESCRIPTION OF VANDALISM Lions Picnic Shelter - Disfigurement, burns, and graffiti

NOTE: IT IS RECOMMENDED THAT PHOTOS BE TAKEN OF THE DAMAGE AND ATTACHED TO THIS FORM.

3. EXACT LOCATION OF VANDALISM:
a) Park Area Northside
b) Building/Shelter Lions
c) Interior Location _____

4. DATE OF VANDALISM May 16 '83 ☒ Actual ☐ Best Guess

5. TIME OF VANDALISM 11:45 ☒ Actual ☐ Best Guess

6. WEATHER CONDITIONS AT TIME OF VANDALISM:
☒ Warm ☐ Sunny & Pleasant ☐ Hot
☐ Cold ☒ Grey & Overcast ☐ Rainy
☐ Hot & Humid ☐ Other _____

7. DESCRIBE OTHER CIRCUMSTANCE YOU FEEL MAY BE IMPORTANT: _____

8. LAW ENFORCEMENT AGENCY (AGENCIES) NOTIFIED _____
☒ No Law Enforcement Notification

9. IF KNOWN, DESCRIBE THE VANDALS:
☐ Males How many? _____ Ages? _____
Are they regular park users?
☐ Yes ☐ NO ☐ Don't Know
☐ Females How many? _____ Ages? _____
Are they regular park users?
☐ Yes ☐ No ☐ Don't know
☐ No Information on Vandals

10. ESTIMATE OF REPAIR/REPLACEMENT COSTS:
\$ 300 Dollar value of Materials/Equipment
10 Hours of Labor by Park Maintenance Personnel

11. NAME OF PERSON COMPLETING THIS FORM: B. Johnson
STAFF POSITION Foreman

12. GENERAL COMMENTS OR SUGGESTIONS, IF ANY: _____

FOLLOW-UP INFORMATION/DISPOSITION (Printed on Central Office Office only)

13. a) ACTUAL DOLLAR VALUE OF MATERIALS/EQUIPMENT \$ _____ P.O.# _____
b) ACTUAL HOURS OF LABOR _____
c) TOTAL TIME FACILITY/UNIT OUT OF SERVICE _____

14. VANDAL(S) APPREHENDED YES. NO.
DISPOSITION: _____

RESTITUTION REQUIRED: YES. NO.

Source: (Bis, 1981)

Illustration 8. This Vandalism Report Form, Typical of many municipal agency forms, uses a 'fill in the blank' format for the individual filing the report. Data can be later interpreted, coded, and compiled for analysis.

GENERAL COMMISSION

40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	

CONSEQUENCES

COSTS

DOLLARS

0- BREAKAGE
1- GRAFFITI
2- DISFIGUREMENT
3- DISSASSEMBLY/REMOVAL
4- BURNS
5- BLOCKAGE
6- VEGETATIVE DAMAGE
7- MISCELLANEOUS

0 -	0 -	50
1 -	50 -	100
2 -	100 -	200
3 -	200 -	500
4 -	500 -	750
5 -	750 -	1000
6 -	1000 -	2000
7 -	over	2000

NCS Data-Reflex E DS 2970A

Illustration 9. This Vandalism Incident Report Form can be marked very quickly using a simple numerical code; 'read' by an optic scanner and data automatically collected for computer analysis.

RECORD SYSTEMS

Accurate vandalism incident records can quickly be reviewed to determine if the vandalized item had been damaged before, how frequently, the interval since the last reported incident, the types of damages previously incurred, the maintenance actions previously taken, VCM strategies previously used, cost of previous repairs or adaptations, etc. These data can be easily reviewed if the inspections and incident reports are collected and categorized. This can be as simple as a cross-filed 3 x 5 card file or as sophisticated as a computerized data set such as the Maintenance Operations Scheduling System (MOSS) (9).

Separate files of cards can easily be cross-referenced for each park, each facility, type of damage, priority classification, severity of damage, cost of repair, number of previous incidents, time of incidents, and modifications made after each.

ANALYSIS OF RECORDS

With accurate records maintained in a systematic format, it is easy to analyze the reports over a specific period. While numerous statistical techniques can be used, a great amount of useful information can be obtained from the basic descriptive statistics of totals, means (averages), range, and standard deviation. In addition, frequencies and patterns can also be determined from the records.

From these data, it is possible to determine where VCM efforts would be most cost-effective by identifying the most expensive incidents, the most frequent targets of vandalism, the most common type of damage, the highest average cost of repair, the park or recreation site with the highest frequency of vandalism, the period when most incidents occur, etc. Instead of using a blanket approach for all facilities throughout the entire park system, VCM emphasis can be focused upon specific objectives which can be measured and evaluated.

Section Three: Establishing Quantifiable VCM Objectives

One of the first steps in the preparation of an effective VCM program is to define realistic (i.e., achievable) agency objectives which can be measured and evaluated. Establishment of these objectives follows the initial information collection and analysis from which these objectives can be specified and evaluated. The agency objectives may be expressed in one or more ways:

- a) Maximum number of major vandalism incidents per number of user days (or per calendar period).

Example: There shall be less than 10 major* incidents of vandalism per 1000 park user days (or from May 1 through August 31).

- b) Maximum total costs of all incidents of vandalism per calendar period.

Example: There shall be less than \$30,000 total costs (including materials and labor) for maintenance expenses incurred due to vandalism for the fiscal year.

*(i.e., causing a shut-down of facilities or a cancellation of programs for at least one day)

- c) Percent reduction from previous accounting period for a certain type of vandalism.

Example: There shall be a reduction of not less than 12 percent from the previous total annual maintenance expenditures due to vandalism by breakage.

ADVANTAGES OF SETTING VCM OBJECTIVES

Meeting these objectives, when documented by accurate data compared to specific criteria, will help the agency demonstrate that resources--natural, fiscal, and personnel--are being managed in a business-like manner and that there is demonstrable success in improving maintenance services. Evidence of cost savings is a very credible argument for budget justification (62).

WHO SETS VCM OBJECTIVES?

There is no hard rule that says a certain official or specific level of management alone determines the objectives to reduce expenditures due to vandalism. It is generally best if all the people involved participate in setting these objectives. In this manner, those who are most apt to be directly affected by the achievement or failure to meet the objectives have set their own standards. These include the entire park staff (particularly maintenance personnel), park users, cooperating agencies, as well as the general public.

Staff Participation

The park superintendent, with input from his/her maintenance personnel, can help establish park-specific objectives for reducing costs due to vandalism. After all, it is these crews which must spend costly time and use expensive supplies and materials to repair damage. They would save time and expense by setting and achieving VCM objectives. Quantifiable objectives, set by each park superintendent and reviewed/approved by the agency director, can also be a portion of job performance standards.

Similar objectives can be set by program leaders who regularly use a specific facility or area in a park.

Park Users

Some parks have reserved facilities that are used by a group of 'regular users.' Examples include Little League ballfields, daycamp pavilions, group campgrounds, as well as fee-supported facilities which offer season or annual passes (swimming pools, skating rinks, tennis or racquetball courts, ski slopes, etc.) These 'regulars' are also affected by vandalism--e.g. inconvenienced, offended, delayed or perhaps denied use of a facility because of dysfunctional facilities. Prevention of these consequences can be the incentive for this group to get and help achieve VCM objectives for each facility.

Section Four: Vandalism Control Strategies

In many sports, coaches stress that 'the best defense is a good offense.' This principle is useful in park vandalism control management as well. Both aspects of park vandalism--the acts of depreciative behavior and the resulting damages to the physical environment--may be reduced if a park department 'takes the offensive.'

There are numerous approaches to vandalism control. In the past, many of these techniques were attempted, one after another, as park departments tried to eliminate 'the problem' of vandalism by seeking 'THE Solution.' Today, it is recognized that 'the problem' is that vandalism is a multiple, rather than a singular cause of facility damages.

Cost effective vandalism control management must be planned as carefully as other aspects of park management. There must be specific strategies for control which can be replicated, quantified, and evaluated. These separate strategies must be components of a comprehensive vandalism control management (VCM) program which include proactive measures, in which the park department takes the initiative before incidents occur, as well as reactive measures, which provide corrections or adjustments to previous efforts.

Vandalism as behavior. It is logical that, if park users did not exhibit vandalistic behavior, there would be substantial cost savings in facility development, maintenance, repairs and replacement. Unfortunately, individuals do damage park facilities and equipment and, therefore, park management needs

to establish a series of social and physical vandalism control strategies to protect park resources. The physical strategies--detailed later--should be preceded by social strategies to the diverse problems of park vandalism.

This social approach is most effect with 'incidental' acts of vandalism, 'institutionalized' forms of vandalism and, to some degree, one category of 'inexplicable' vandalism--inebriate activities. These may be avoidable, preventable, and thus controllable by social techniques more than 'deliberate' acts of vandalism. Appendix 2 of this manual has descriptions of these forms of vandalism.

This social approach should be based on five interconnecting administrative tools: (1) publicity and public relations, (2) education, (3) rule enforcement, (4) general operations, and (5) cooperation.

Vandalism as consequences. Certain park facilities are commonly broken, marred, stripped, burned, or otherwise damaged. A way to minimize unnecessary expense resulting from such vandalism is to identify the most common targets and the methods by which they are damaged. There are a variety of ways costly damage can be reduced--by "hardening" susceptible parts, protecting facilities, controlling access, or replacing inherently fragile materials, among others. These physical approaches--through improved design and management--are frequently easier to quantify and evaluate than social techniques. These also can be proactive (preventive) or reactive (corrective) in their affects on vandalism.

► PUBLICITY ABOUT VANDALISM AND PUBLIC RELATIONS

It is important that a park department have a clear policy regarding publicity about vandalism. Policy considerations include the extent of damage incurred, necessity to notify police (whose records are public information), existence of a public education campaign to reduce vandalism, existence of a reward policy (see pp. 38-40) and the use of vandalism reduction cooperative programs (see pp. 42-46).

Rationale for Expanded Publicity

There are two extreme policy positions regarding park publicity about vandalism. The optimistic view is that public knowledge of vandalism creates general outrage and scorn against such activities and rallies support for the "victimized" park department.

One optimistic approach, used by Amherst, New York, has been to place a "tally box" of recent vandalism incidents and their cost, as well as the cumulative total to date in the newspaper (68).

The San Jose, California, Parks and Recreation Department assumed responsibility to publicize city-wide costs of vandalism in parks (actual and 'hidden' administrative costs) a minimum of twice a year. It also recommended that the Department develop a comprehensive public education program for release to local media about the consequences of vandalistic behavior--explaining how parks can be vandalized unintentionally, cost of damage, positive activities at parks, and successes in reducing vandalism.

All expressions of damage cost would be translated to reflect equivalent desirable services to the community that could have been provided at the same cost as that of the vandalism, to fully emphasize the prices paid for misuse of parks (98).

Rationale for Limited Publicity

The pessimistic view is that publicity provides vandals with the additional thrill of fame and glory for deliberate vandalism, even if they have not been identified, and encourages others to do likewise. In addition, it has been noted that anti-vandalism efforts, which are publicized only when a bad incident occurs, may tend to discredit other successes. No governmental agency likes to give itself bad marks in the eyes of the public, particularly when it feels the problem is a very difficult one which the public will not fully realize when rendering its judgments (107).

Operating on the theory that publicized vandalism will beget more deliberate vandalism, the Parks and Recreation Department of Odessa, Texas, has a policy of not reporting vandalism to the news media except when police or insurance companies need to be called--instead, the damage is quickly and quietly repaired (61).

Recommendations Regarding Publicity

It is recommended that publicity be used in conjunction with a public education campaign (discussed on pages pp. 32-36) to make people aware of the efforts of incidental vandalism, including the loss of opportunity, use and examples of what the repair cost might have provided instead. If the agency

has a policy authorizing a reward for information leading to the conviction of individuals causing deliberate vandalism (pp. 39-40), publicity can be an effective tool as well. Positive publicity about vandalism reduction cooperative programs (discussed on pp. 42-46) can provide recognition to helpful groups and organizations as well as illustrate how the park department is taking proactive, rather than reactive, measures to control vandalism.

Public Relations With Park Visitors

Staff should be trained in positive public contact and public relations. All staff--whether providing program services, maintenance, protection, or law enforcement--should treat the park user as an individual and help create a social atmosphere of friendliness between the park visitor and the agency.

► EDUCATION

There are several recommended education practices and procedures that have been advocated to reduce the interest or desire of individuals to vandalize facilities. These proactive social strategies can preclude instances of vandalism and eliminate the need for reactive measures.

The keys to education as a social tool to reduce vandalism are the defining and understanding of the objective or purpose of each educational effort, focusing in on specific target audiences, and utilizing appealing and effective techniques.

Staff Training

Agencies should provide staff training about vandalism. To be effective, it is essential that park and recreation agencies have sensitive, understanding, and responsible staff who know how to anticipate and prevent instances of vandalism before they occur, how to minimize existing opportunities for vandalism, and how to modify vandalism targets to reduce consequences of replication (98). Employees should become aware of vandalism causes and types, social and physical vandalism control strategies, how to use incident and periodic inspection procedures, etc.

Educating the Park Visitor About Vandalism

Educational efforts should be directed toward specific audiences in order to reach the appropriate people. In relation to the park, these audiences are either 'internal' or 'external.'

Internal audiences are physically within the park and the educational process is especially pinpointed to these individuals. Their presence in the park indicates probable interests and motivations which would tend to make them receptive. At one level, all park visitors constitute an internal target audience. More specifically, those users of particularly vulnerable or susceptible targets of vandalism are a special audience. These educational efforts should make park users aware of the consequences of avoidable or preventable acts of incidental vandalism. It is not likely that deliberate vandalism can be reduced significantly by public appeals and education.

Objectives. The overriding objective of vandalism control education is to be personal. A "them versus us" (wrong vs. right) approach should be avoided. Depending upon the audience, one or more of the following objectives should direct the educational efforts:

- * Make park visitors aware of the eventual personal consequences of negligent or careless misuse ('incidental vandalism') of park facilities and resources.
- * Show the direct impact, in terms of lost opportunities, time, and inconvenience, of specific instances of vandalism upon each park user personally.
- * Show the tangible benefits of reduced vandalism to each park visitor.
- * Encourage park visitors to acquire a personal proprietary interest in the park and to become actively involved in monitoring park facilities for initial signs of vandalism.
- * Solicit cooperation in identifying deliberate park vandals.
- * Praise and thank the park visitors as 'representative of the previous year's visitors' who helped reduce incidental vandalism and illustrate the improvements they achieved.

Techniques. There are numerous educational techniques that can be used to control park vandalism. The following examples are offered as suggestions:

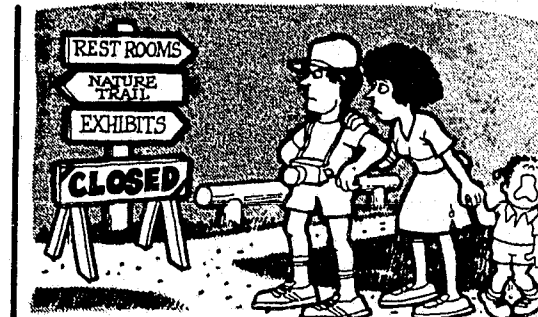
- * Orientation displays or presentations at a Visitor Information Center, Community Center or other park site.
- * Clear and simple posted explanation of park policies phrased in a positive tone.
- * Friendly, casual personal contact with visitors by park personnel.
- * Inclusion of a message as part of hand-out park brochures.
- * Inclusion of a message as part of permit applications.
- * Interpretive explanation at site of vandalism during the period of unavailability and repair.
- * Eye-catching posters and clever slogans at common areas of public assembly. An example is enclosed. (page 41)
- * As part of regular or special mailings to park patrons.
- * Establishment of a special award for vandalism reduction as part of a scheduled Scout, youth club, or other organizational session.

VANDALISM COSTS YOU...



...BEAUTY

Words carved on trees and buildings, or painted on rocks, destroy the scenic and historical value of the area.



...CONVENIENCE

Damaged park facilities may be closed for repairs or need replacement.



...SAFETY

When warning signs or barriers are destroyed, the area is not safe. Life and property are threatened.



...MONEY

Your tax dollars pay for repairing damages. Vandalized park features may be irreplaceable.

HELP STOP VANDALISM!

Please report all incidents to the Park Rangers



NATIONAL PARK SERVICE
United States Department of Interior



Educating the General Public About Vandalism.

External audiences are not physically within the park and the educational media must be sent or transmitted to them. Because they are not influenced by an ambient park setting when they receive the educational material, their interests and motivations require greater stimulation. Examples of special external audiences include previous park visitors or program participants (from registration lists) and potential park user groups such as neighborhood kids, youth groups, organizations, and schools.

The objectives for vandalism control education for the general public are essentially the same as those previously identified for the park visitor. Techniques include using a series of brief radio, television, or newspaper public announcements similar to the National Park Service sixty-second 'be safety-conscious in our parks' video tapes. Utility companies have successfully used radio 'public announcements' and eye-catching cartoon panels in newspapers to elicit public cooperation to reduce sign-posting on utility poles, which can be dangerous to linemen, and to reduce incidents of shooting electric insulators. These vandalism control education materials could be sponsored by banks, local industry, and other commercial establishments (see p. 51).

► RULE ENFORCEMENT

There are four principal strategies which relate to rule enforcement: (1) the

adoption of realistic, enforceable rules and regulations; (2) the perceived presence of authority through employee visibility; (3) financial incentive and reward programs and (4) adaptive surveillance.

Rules and Regulations

Park regulations regarding vandalism should be reviewed for enforceability, presentation, and clarity (19, 46). Too frequently, park agencies post rules without supporting the rationale for these regulations. For example, many agencies prohibit alcohol beverages. The rationale is that such a policy reduces the consequences of intoxicated behavior--possible disruption of the peace as well as inebriate vandalism to park resources. The rules then go ignored because the agency either does not have the enforcement resources or does not have a clear parameter of what constitutes a violation (46). This is especially true for acts of incidental vandalism. Then, too, many rules are presented in tones of such absolute authoritarian forbiddance that they immediately establish a baseline negative attitude between the park visitor and the agency. This may only antagonize and challenge some individuals who are already feeling anti-social. This may ultimately lead to vindictive vandalism. Communication of rules must be clear, positive and understandable. Legal jargon should not be used. If necessary, bi-lingual texts should be employed.

Visibility of Employee Presence

Agency personnel can be available in a non-conspicuous manner at all times. Many agencies have uniforms for all staff for public visibility (49). If appropriate, staff might be provided with living accommodations within close

proximity of susceptible park facilities to deter vandalism after closing. Public campgrounds in the National Forests, the Illinois State Parks, Pennsylvania State Parks and others have found that a 'campground host' program, where a free campsite is provided to a couple in exchange for limited maintenance and supervision, has been helpful. Since 1977 New York City has used Urban Park Rangers, both mounted and on foot, in uniforms similar to NPS rangers. These are people oriented and trained to provide directions, help lost children, etc. Boston plans to have Urban Park Rangers beginning in 1982. These are examples of a perceived presence of park authority.

Financial Incentives/Rewards Pertaining to Arrest and Conviction of Vandals

There are several policies regarding financial incentives/rewards which might be adopted by park agencies to combat vandalism.

- No financial incentives/rewards

The first policy is to provide no financial incentives to reduce minor vandalism nor offer a reward to help identify and prosecute perpetrators of more serious vandalism. While few agencies have a written policy stating so, this is, in fact, the approach most used.

- Financial incentives as vested interests

There have been some attempts to utilize a budget reserve specifically established for vandalism repair costs as an incentive to reduce total vandalism expenses (68). Each park or unit of the system is budgeted a given annual amount as a projected cost for

vandalism. The park users--through an organized 'neighborhood park committee' or some other structure--are offered the balance of the account at the end of the fiscal year to use for a specified use--park party, special program, or other special project in the park. The regular users therefore have a vested interest in keeping vandalism costs to a minimum. A 'special vandalism awareness program' is often prepared which alerts users to the consequences of many incidental acts of vandalism and identifies ways deliberate vandalism can be minimized. While there is no actual budget savings realized from such a policy because what is not spent on vandalism repair is spent on culminating special programs, this incentive policy does foster community involvement, makes the public aware of the possible causes for vandalism as well as costs of vandalism in terms of both fiscal outlay and experiences lost, and prolongs the original condition of park facilities normally affected by vandalism.

- Reward for information resulting in conviction of vandal(s) of a specific incident

Vandalism, in its generic sense, can incorporate a wide range of legal violations--from petty infractions to actual felonies. As one social approach to combat serious deliberate vandalism, the park agency may establish a policy of offering a reward for information leading to the arrest and conviction of vandals charged with acts of destruction resulting from a specific incident. This has been successful for the West Bend, Wisconsin, Park, Recreation

and Forestry Department(4). To warrant the offering of such a reward the policy should define the minimum extent of damages and the minimum criminal charges to be filed. In these cases, the reward may be recovered from the convicted individual(s) (107) if the agency is able to obtain a decree for restitution as well as the imposed punishments of fines or incarceration. Such a policy should be limited to those specific instances where the government really does wish to apprehend the offender(s). That is, the public must be supportive enough to accept the costs involved in the judicial process and provide the protection of the accused, such as the right to a formal hearing and the right to counsel, as well as the burden of prosecuting the case in court (107). Agencies may choose to establish a separate policy for each incident, contingent upon the specific situation.

- Standing rewards

Several communities, such as Essex County, New Jersey, and Warren, Michigan, have established a standing reward policy, with a "secret witness" program to protect informants from possible retaliation. This approach is commonly done on a community- or county-wide basis for all types of criminal activity, usually under the auspices of the police department (68). While such an umbrella approach may benefit from broader governmental support and public exposure, park vandalism is only a small part of the overall criminal reduction program and may not be emphasized to the public as it would as a separate campaign.

WANTED
INFORMATION ON VANDALISM
\$1,000 REWARD

The West Bend Park and Recreation Commission is offering a \$1,000.00 reward for information leading to the arrest and conviction of a person or persons who caused vandalism and damage to the Regner Park Workshop rest rooms on October 7, 1978.

In addition to making reports, for more information contact Lieutenant Hetebrueg at the West Bend Police Department, 334-3434.

Illustration 10. Rewards for information about specific incidents of vandalism have been successful when there is general public support for the agency.

Adaptive Surveillance

By using a periodic review of the vandalism incident reports, park agencies can inform park rangers or other law enforcement agencies which parks are frequent targets for vandalism and perhaps even identify a period of time when vandalism commonly occurs. Surveillance can be adapted to concentrate on these situations.

Some park departments, such as the one in Lower Merion Township, Pennsylvania, located just outside Philadelphia, employ special watches to patrol the parks at irregular times during the heavy-use summer. These extra forces are selected according to high standards and are frequently former policemen, guards, or private security officers.

► GENERAL OPERATIONS

Three general operations strategies to reduce vandalism are recommended.

- (1) provide limited opportunity for vandalism to occur can be observed by heavy use of park facilities through active programming and scheduling,
- (2) require damage deposits for reserved use of park facilities, and
- (3) remove temptation by removing readily accessible booty.

Heavy Programming/Use

The full utilization of park facilities by the public actively engaged in recreational activity, either structured or unstructured, is a deterrent to loitering and surreptitious vandalism. The Cobb County, Georgia, Parks and Recreation Department has noted large numbers of people using a facility productively usually provide an inherent self-policing function to ensure that it is not abused (49, 86).

Utilization of Damage Deposits

When facilities are made available for the exclusive use of specific groups on a permit or reservation basis, such as large pavilions, lodges, retreat centers, etc., it is practical to obligate damage liability to the users as part of the permit contract. Pre-and post-event facility inspections with a representative of the group are used to document conditions and determine extent of damages to be paid from the damage deposit. The residual from the balance is promptly refunded. This practice is effective for incidents of licensed or ritualistic vandalism.

Removal of Tempting Booty

Where revenue-producing programs or facilities exist--fee activity centers, concessions, and especially unsupervised pay telephones or vending machines--agencies should establish a daily procedure of removing all money from these facilities and leaving the empty cash drawers wide open before closing the building. This fact should be well publicized through prominent signs at each point of money collection. The Boston Park and Recreation Commission, the Chicago Park Districts and others have found by removing the money, potential instrumental vandalism of these facilities for the purpose of looting may be reduced (16).

► INTERAGENCY AND COMMUNITY GROUP COOPERATION

Vandalism is not exclusively a park problem. It is a serious problem throughout entire communities and rural areas alike (68). The adages "There is strength in numbers" and "Cooperation is the best approach" imply a hopeful direction for this problem. Park agencies have several groups who can provide useful cooperation:

Park-School Partnerships

The public school system is perhaps the closest ally a community park system could have in the effort to reduce vandalism. This is especially true when the recreation program occurs in school facilities. Both must contend for children and youth in structured and unstructured circumstances. A significant amount of materials has been written about school vandalism and it is not surprising that most of it is directly applicable to parks. Cooperation appears logical.

Neighborhood/Youth Monitors

There have been a variety of attempts to establish "Neighborhood Watch," "Adopt-A-Park," or "Stewardship" committees to monitor and report park vandalism in progress, rather than have the agency discover the damages next day, after the vandals have departed (68, 98, 107). This has been successful in Houston, Texas. Another approach has been to get the monitors out of their homes and actually into the parks by utilizing youth patrols. This has been done in Richardson, Texas (49, 79). Cooperation with neighborhood groups is only as successful as the neighborhood commitments. This strategy is apparently difficult to carry out successfully and will not work in any and all cases (107).

The Community Watch Program

A broader community crime reduction program of volunteer surveillance has been the National Community Watch Program. This program is highly organized and has been effective in providing inconspicuous surveillance at community centers and other vulnerable and frequently vandalized facilities. Volunteers

devote specific periods of service at predetermined locations or as mobile units cruising a designated 'beat.' They immediately report suspicious activity by telephone or radio to the cooperating law enforcement agency, who responds to the call and takes the appropriate action. There have been numerous communities from Jamestown, North Dakota; Denison, Iowa; Dade County, Florida; Lower Merion Township, Pennsylvania, and New York City to Texarkana, Texas. There are over 500 similar organizations listed with the National Association of Town Watches.

Civic and Service Organizations

This may be a resource not yet fully tapped. Many civic and service organizations have contributed, or even constructed with volunteer labor, park pavilions, playgrounds, flagpoles, drinking fountains, spectator facilities, etc., for community parks. Many youth, conservation, and sportsman clubs contribute hours of service during special clean-up days, litter removal drives, and other volunteer efforts. There is an obvious proprietary or vested interest in the care of these facilities. These organizations, as well as commercial establishments such as banks, local industry, etc., could also underwrite grants for the preparation of community education vandalism control programs. Local Speakers Bureau or Toastmaster organization members may be willing to make presentations at schools, club meetings, and so forth. However, there were no recorded instances of this cooperation in the current review of literature.

Public Law Enforcement Agencies

A strategy of more stringent enforcement of vandalism regulations by local police, which many park agencies assume is done regularly and routinely, in

fact, is sometimes not much more than "buck passing", instead of cooperation. Care must be taken that the responsibility for vandalism reduction, through increased surveillance is not just passed on to the local police in addition to their myriad of responsibilities and concerns about other much more serious criminal activity than these misdemeanors (107). A police car sitting in a park may even be open to potential criticism because the public may perceive its presence as "playing hooky from chasing real criminals." Use of park police or rangers instead of public police to routinely patrol parks has been advocated (4). The Houston, Texas, Park Department has 125 park police. By providing better internal surveillance as well as using volunteer watches, as described previously, apprehension of vandals by the police can become the rule rather than the exception.

The Courts

Court-imposed servitude can be individually beneficial if successful rehabilitation of convicted vandals results, but the impact upon the total vandalism problem now is, in reality, minimal because the number of individuals arrested and convicted of a criminal offense as a result of vandalism has been very small (22, 23, 24, 25, 28, 34, 114). There appear to be two benefits from court-park department cooperation. The first is the possibility of receiving equitable restitution to pay for the necessary repairs due to the vandalism incurred (79). It is important to verify that such awards may be accepted for these expenditures and are not deposited into the municipal or state general fund with no resulting repair revenues available to the park. The second possible benefit is the rehabilitation of offenders and restitution through work programs such as the Court Referral

Program in Seattle, Washington; Chico, California; and Antelope Valley, in the same state (49, 60, 68, 98).

► DESIGN AND MAINTENANCE

The previous VCM strategies were social approaches. Design and maintenance are physical approaches. There are several strategies that may be used as proactive design measures before vandalism incidents occur, or as reactive, adaptive maintenance measures to provide corrections or modifications to previous efforts to control vandalism.

These strategies are best applied in conjunction with social strategies as part of a complete vandalism control management program.

Update Agency Development Specifications

A well-documented record of vandalism-caused repairs and the effects of adaptive maintenance can help update agency specifications for standard park facilities such as benches, tables, drinking fountains, lighting equipment, sanitary fixtures, etc. Building to these specifications will prevent previous mistakes, omit easily vandalized facilities, and provide 'hardened' facilities and new park development from the start. New development shall also incorporate the physical techniques for vandalism control identified in Appendix 3.

Prompt Response to Vandalism

Park departments can establish a procedure of prompt maintenance to vandalized

facilities. This prevents exposing the damage to other, perhaps impressionable, park visitors who might feel the agency does not care and, thus, might add more damage to what is already there (49). It also has the effect of denying the deliberate vandal the pleasure of having his/her handiwork exposed to the public. Santa Ana, California, and Houston, Texas, have graffiti crews whose job it is to paint over new graffiti as soon as it is found (68).

Adaptive Maintenance

An adaptive maintenance program, which improves vandalized items by changing or strengthening broken parts, is better than repairing a damaged facility back to its previous condition. If this practice is based upon the type and severity of vandalism, facilities can be economically upgraded (retrofitted) on an 'as needed' basis instead of doing restorative repair with the possibility of frequent re-repair or a blanket replacement program to substitute all possible targets with extra-duty facilities (45, 68). Appendix 3 provides detailed techniques for adaptive maintenance. This practice is especially effective for many types of incidental vandalism.

Physical Vandalism Control Strategies

Any vandalism control strategy must attempt to achieve specific VCM objectives. There are six principal physical vandalism control strategies--

- incident prevention
- process hindrance

- activity deflection
- damage reduction
- repair/cleanup or recovery implementation
- perpetrator detection

Each is described briefly and forms a basis for the categorized vandalism control techniques itemized in Appendix 3, which includes numerous examples of each technique.

Incident Prevention--To bar, by removal of probable targets, by controlled accessibility, or other restraints, the actual execution of a vandalistic act.

Stop 'em from doing it! The ultimate protection from vandalism is to prevent it from occurring at all. Absolute accessibility control in most public parks is either impossible, undesirable, or not cost effective. But there are given situations--where vandalism is committed for profit, for example--where incident prevention or opportunity denial is a viable and obtainable objective for vandalism management. Innovative but inexpensive techniques such as those discussed in Appendix 3, for example, might be employed to prevent much casual vandalism. Substantial savings--monetary, cultural or historical--may justify more elaborate preventive measures.

Process hindrance--To delay or impede the accomplishment of vandalistic deeds.

Make it difficult and time-consuming! Much incidental vandalism is the result of impulsive actions which, to the individual, appear to be so easy to do without threat of disclosure or punishment. By increasing the difficulty or risk, it is possible to make some vandalism not worth the effort required. While this will not stop the determined vandal (who in fact may relish the satisfaction of overcoming the additional "challenge"), it can provide a deterrent to opportunistic or incidental vandalism.

Activity deflection--To redirect potentially damaging actions to other, more acceptable targets.

Let 'em do it, but to something else! There are various fun activities, seemingly innocuous and insignificant by themselves, which can individually or collectively abuse facilities or dilapidate an area (play vandalism--see Appendix 2.) In some instances, it would be more effective to provide a tempting legal alternative or expendable targets for such actions.

Damage reduction--To "harden" facilities and materials to minimize the consequences of vandalism.

Protect and strengthen the targets! No park is vandalism-resistant. Some facilities are inherently susceptible to damage. Others are conspicuous and tempting targets; still others routinely receive damaging abuse or misuse. Often it is cost effective to protect these facilities by using stronger materials, more durable products, and heavy-duty construction. The initial

extra cost is cheaper over the life of the facility than frequent and costly repairs to unhardened targets because of vandalism.

Repair/cleanup or recovery implementation--To facilitate the restoration of vandalized facilities and areas.

Make it easy to fix afterwards! Certain forms of vandalism are unpreventable, or prevention may be prohibitively expensive. In these situations, periodic repair or refurbishing is an acceptable procedure to provide a specific level of maintenance. These facilities should be modified to make these periodic restorations quick, convenient and economical. Modifications should be based upon the typical vandalistic damage incurred--from sealing of surfacing, replacing materials and using special fasteners, to providing convenient access for repairmen.

Conspicuously "branded" portable items make park ownership obvious and helps in the recovery of items removed from the park and later discovered elsewhere.

Perpetrator detection--To observe, recognize, and perhaps document the identity of the vandal(s) while engaged in the unlawful activity.

Take away their masks of secrecy! There are instances (for example, when stolen property might be recovered, repair would be very expensive, health and

safety of individuals could be impaired, or when restitution by convicted vandals is a principal source of funding for repairs) when it is recommended that facilities be sited and maintained for easy inspection and/or surveillance measures--either electronic or with park police, rangers or other special personnel--be established. The presence of the surveillance force may deter some who are unwilling to risk loss of anonymity. The primary function of electronic systems is not to stop the illegal actions but to alert law enforcement agencies and establish the identity of those who still choose to engage in the acts. The Chicago Park Districts began using a wireless electronic surveillance system in 1982 for 28 major buildings. This system operates on either UHF or VHF frequencies and uses a variety of intrusion detectors, including sonar, light beams, microwave, and remote TV.

A detailed compendium of design and adaptive maintenance techniques for these strategies is provided in Appendix 3, categorized according to the type of damage caused by vandalism.

Section Five: Implementation, Evaluation and Follow-up

As a review of process, here are the principal steps in the implementation, evaluation, and follow-up of a vandalism control management program for parks and recreation agencies.

1. Assess the problem. It is important to know what the situation is. The vandalism problem in one community may not be the same as that in another. Therefore, each community needs to identify its specific problem. This can be accomplished with a baseline facilities condition inventory, as described in Section Two of the manual (see pp. 6-23).
2. Reduce the problem. Know why vandals do it. There is merit in attempting to understand vandals' rationale. Only a small portion of all vandalism is inexplicable--the rest is either deliberate or incidental, but done for a purpose. To reduce these incidents, it is helpful to make reasonable conjectures why people do these things. In many cases it may be possible to eliminate or modify vandalistic conduct and thus reduce repair costs. Without question, more effective preventive measures, both social and physical, can be taken to deter a reoccurrence of an act of vandalism when the cause is known. This is similar to medically treating the disease (the cause) rather than dressing the resultant sore (the damage). A glossary of the various categories of vandalistic behavior and a discussion of the possible motives for each is provided in Appendix 2.

3. Establish quantifiable VCM objectives. After these initial fact-finding steps are complete, it is possible to formulate the objectives for the entire vandalism control management (VCM) program. The ultimate goal is to reduce unnecessary expense due to vandalism-caused damage. In order to have objectives which can be compared to vandalism control efforts, these objectives must be measurable--by total number of major incidents, by reduction of costs incurred because of vandalism, or some other quantity. The objectives are easily stated as improved changes from a known status, based on the baseline facilities condition inventory. Examples of VCM objectives are given in Section Three (pp. 30-32).
4. Obtain accurate data on status change. A periodic inspection, using the same inventory form as the baseline facilities' condition survey will provide information that can be compared with the previous inspection findings. It is possible to make comparisons on a facility-by-facility basis, on a park-by-park basis or on a system-wide basis.
5. Select strategies for an overall VCM program and specific situations. These strategies should be based upon a reasonable conjecture about the motives or rationale for the vandalism, a knowledge of the types of damage and degree of severity incurred, and the VCM resources available. A combination of social and physical strategies should be selected as a concerted package or program; no single solution will control the complex variety of problems jointly described as vandalism. Review Section Four, Vandalism Control Strategies. Some strategies will be comprehensive for the entire system. Others will be facility or site-specific.

6. How to show achievement of VCM objectives. The key to determining whether an objective has been accomplished is to express that objective in a quantifiable manner, and then compare that objective to actual endeavors. This process is very familiar to most park administrators who utilize any form of Management By Objectives (MBO) program or service performance evaluators. It is recommended that agencies using Program Performance Budgeting (PPB) include a specific cost item within the maintenance budget for vandalism cost tracking. The baseline facilities condition inventory can be compared to periodic inspections and incident reports to note status change. Comparison of these data will show change--either improvements or regressions.
7. Assessment and follow-up. By making comparisons between current and previous conditions, strategies can be evaluated. Cost savings and problem reduction can be assessed for each strategy to determine effectiveness. Those strategies which are successful may be combined with modified, revised or completely new strategies to replace unsuccessful approaches. The vandalism control management process must be dynamic, flexible, and reactive to change, the same as any other management process.

Appendix One: Selected Recommended References

The following are recommended for more detailed information about the general topic of vandalism in parks and recreation areas.

Vandalism and Outdoor Recreation: Symposium Proceedings, USDA Forest Service General Technical Report PSW-17, Samuel Alfano and Arthur Magill, Technical Coordinators, Berkeley, CA, 1976.

"Vandalism in Public Parks: A Positive Perspective" by James Diamond. Presented at the New England Parks Association Conference, September 10, 1981.

Managing Vandalism: A Guide to Reducing Damage in Parks and Recreation Facilities, Jonathan Dopkeen, Editor, Parkman Center for Urban Affairs in cooperation with the Parks and Recreation Department, Boston, 1978.

Reducing Park Vandalism, Jack Howley, Editor. Upper Plain States Innovation Group, Bismarck, ND, 1981.

Study of Property Damage in the Parks of San Jose, California: Final Report. San Jose Department of Parks and Recreation, San Jose, CA, 1981.

The following are recommended as general references for the topic of vandalism:

Designing Against Vandalism, Jane Sykes, Editor, Van Nostrand Reinhold, New York, 1979.

Vandalism, Colin Ward, Editor, Van Nostrand Reinhold, New York, 1973.

Vandalism: The Not-So-Senseless Crime, by Arnold Madison, Houghton-Mifflin, Boston, 1970.

Appendix Two: Glossary of Vandalistic Behavior

"Vandalism" has been used as a label for a broad range of negative behavior, from accidental or trivial incidents to actual criminal activity. There have been numerous attempts to categorize these actions from a behavioral basis to help explain why individuals do these things.

A brief review of the types of vandalistic behavior illustrates the fact that vandalism is not a single stereotyped crime. While accepting that each form of vandalism is not mutually exclusive, it is possible to group vandalism into four general categories: inexplicable, deliberate, incidental, and institutionalized.

► CATEGORY 1: INEXPLICABLE VANDALISM

The first category of vandalism includes those inexplicable, unprovoked actions for which there are no avowed motives other than the personal pleasure, gratification, or indulgence in unrestrained, destructive revelry. At least three descriptions have been used to label these actions:

* Wanton vandalism is the term most frequently used in media reports of damages incurred by unknown individuals. Too often, because the individuals involved are unknown (which is why vandalism has been called an anonymous crime), the reasons why they behaved as they did are never known and are assumed to be "wanton"--for the sheer joy of destruction or annoying others (81).

* Psychotic vandalism is another form of motiveless destruction, resulting from mental disorder (100). Arson caused by a pyromaniac is one example of destructive, deviate, often uncontrollable action. Arson is a form of vandalism that, in fact, can cost a department the entire facility (42).

* Inebriate vandalism is the result of intoxicated behavior, frequently manifesting itself in uninhibited revelry or carousals where vandalism is performed while in a condition of alcohol- or drug-induced exhilaration.

Because of their utter disregard for societal values, perpetrators of wanton, psychotic, or inebriate vandalism can really cause extensive damage and may even be dangerous.

► CATEGORY 2: DELIBERATE VANDALISM

The second category of vandalism includes those activities acknowledged as wrong according to society's standards and rules which commonly define these activities as misdemeanors. The perpetrators are generally aware of the consequences to the vandalized target but may consider their actions to be justifiable. These forms of "hard core" vandalism are willful, premeditated, and deliberate.

* Vandalism due to anger or frustration. Anonymous revenge is a frequent motive for vandalism. There are two common types:

* Vindictive vandalism is property destruction in which the chief motivation appears to be the desire of the participants to express their antagonism and

hatred toward particular individuals and groups (81). Also called "vandalism for revenge," vindictive vandalism may be larger in the total vandalism picture than is apparent and accounts for many more cases which, on the surface, look wanton. The grievance might be imagined rather than real and the eventual target only indirectly or symbolically related to the original source of hostility, but the end result is the same (34). Not only is the destruction of property belonging to, or representing, the person or institution concerned immediately gratifying, but it is also far safer than confrontation offered face to face with an individual (57).

* Malicious vandalism is frequently both 'directed' in a sense that the identity and ownership of a target is not entirely irrelevant and 'responsive' in the sense that the action is a response to a particular situation (34). The damage is often done as a bitter sport or sadistic joke from which the vandal obtains malicious satisfaction. The results are commonly left blatantly evident for effect. Examples range from throwing broken glass and bottles into swimming facilities, dumping garbage into fountains, to maiming or killing animals in parks. This form of vandalism tends to be especially shocking, offensive or abhorrent to law-abiding persons.

Vandalism for gain. There are three types of vandalism which have a profit or material benefit nature:

* Predatory vandalism is property destruction and removal, in which the principle motive appears to be the desire for material gain (81). Also termed "vandalism for profit," (52), this form of vandalism usually involves the stripping or breaking off of all or part of materials which can be sold for

recyclable scrap. Typical targets are copper and aluminum wiring, gutters, rods, fenceposts, standing timber, and even light poles.

* Instrumental vandalism is damage not done for the vandalized item itself, but as a step to obtaining some other item of value, usually by looting or theft. Examples include damaging vending machines or public telephones, or breaking or entering park buildings to loot or steal. The vandalized targets are damaged to gain access, not for removal.



Illustration 11. Park building doors are frequently vandalized so that individuals can enter--to loot or steal items kept inside or to use the facility. (Photo courtesy of the Forest Preserve District of Du Page County, IL)

* Acquisitive vandalism describes the removal of part or all of the facility for personal use, primarily for souvenir displays or domestic use rather than for resale. Examples include theft of park or traffic signs, newly planted trees, bushes and sod, picnic tables, barbeque grills, benches, specimen evergreen trees (Christmas trees), and other outdoor furniture.

Directed vandalism. There are several forms of willful vandalism which are done with ulterior motives and the damaging of equipment or facilities is only a tactic or secondary to the exercise of a perceived "right":

* Expedient vandalism occurs when individuals damage secured facilities to gain entry, not for theft or looting, but to use the facility. These individuals may excuse their actions as "not really breaking and entering because the recreation facility is public property." Using this rationale, they break locked gates, cut chainlink fences, stack picnic tables to climb over walls, jimmy door locks, etc. to use closed tennis courts, swimming pools, basketball courts, and other recreational facilities.

* Tactical vandalism is to deliberately damage or deface facilities to advance some end, or cause, rather than to acquire money or property (34). This vandalism is not necessarily committed in anger or hostility but is, nonetheless, intentional. Justifications may range from ideological causes (examples include painting anti-war, anti-ethnic, or anti-organization graffiti and defacing or destroying symbolic representations of the perceived 'enemy'), to political campaigns (examples include stenciling slogans or plastering bumper stickers to park buildings, utility posts, drinking fountains, benches, etc.), to attempts to define occupancy rights (frequently found in parks used by different youth gangs or high schools--the "territorial



Illustration 12. Chainlink fencing, gates and other access control devices are commonly breached after closing by individuals who want to use the facilities. (Photo by R. Supryniewicz, courtesy of the New Britain, CT Parks and Recreation Department)

imperative,") to innocuous messages. (Most restroom graffiti and rock painting fit into this category.)

► CATEGORY 3: INCIDENTAL VANDALISM

Incidental vandalism, the third general category of vandalism, entails actions which are not perceived as "wrong" but where individuals are unaware of the consequences of their actions. This is a very broad category. In fact, some forms have become somewhat acceptable in today's society and may not always be

formally reported and logged. Because of this, they are not part of most agencies' vandalism statistics. The repairs necessary because of them are commonly accepted as part of routine maintenance. For the most part, these forms of vandalism are casual, incidental, and unpremeditated. Each occurrence may be somewhat insignificant by itself. But when considered as part of an aggregate over a period of time or over an entire area, they contribute to a noticeable and expensive deterioration. This cumulative deterioration has been described as erosive vandalism (79), or progressive vandalism, whereby one infliction is later enlarged upon or repeated nearby until the entire area or facility has become abused so frequently that it is viewed as acceptable and permissible to inflict more damage or is considered so dilapidated as to be useless and, therefore, an accepted target.

Acts of incidental vandalism, more than other categories of damage-causing behavior, are often avoidable or preventable. It is possible to effectively reduce incidental vandalism in parks and thereby achieve a significant maintenance cost savings.

There are five types of incidental vandalism:

* Play vandalism usually appears unintentionally as part of childish fun. The fact that property is damaged might be an incidental part of the activity. The participants might even be surprised that their behavior is disapproved of (34). It is part of children's play to take things apart, climb trees, throw stones, or scribble on walls, and things naturally get damaged during such activities (57). In much play vandalism there is little malicious intent; motivations such as competition and skill are more important (34). Sometimes children are confused when adults encourage behavior at one setting and fault

the same behavior at another place. For example, children are praised for knocking over milk bottles with a softball or breaking balloons (spheres) with an airgun at an amusement park, but are faulted for the same activities (i.e. throwing at bottles or other glass or shooting at spherical park lamps) at their neighborhood park.

Practical jokes by juveniles can often also be a form of play or fun vandalism (79). The prank may be on a third party, such as a group of students putting all the tables on the roof of a group pavilion or wrapping the facility with rolls of toilet paper just prior to the scheduled picnic for a rival school or club, but the extra cleanup and maintenance is borne by the park department.

* Inquisitive vandalism is a result of inherent curiosity. Children naturally wonder . . . "What would happen if we poked sticks into this electrical receptacle"? . . . "What would happen if we unscrewed these bolts or screws"? . . . "How much sand can we dump into the drinking fountain"? . . . "How many kids will this fence hold"? . . .

* Imitative vandalism may occur when children or youth copy the actions of adults, especially those whom they admire. It may be hard for them to understand, after watching a popular entertainer preserve his/her handprint and signature in fresh concrete, or a professional ballplayer autograph a football, why scratching one's name in wet concrete or marking other items should not be emulated; or why they shouldn't cycle around on a muddy baseball infield after watching moto-cross racing on television.

* Boredom vandalism, while usually not resulting in costly damages, may create messy, unattractive, or offensive facilities which other park users will shun. This form of vandalism is so common that it is usually written off as inevitable

by many park and recreation agencies. Individuals, when bored, may seek an entertaining diversion. This may occur while loitering, waiting for others, listening to an uninteresting and trivial talk, using the toilet, or just "hanging around." This typically results in graffiti or defacement--marking, carving, scratching, or singeing a nearby surface. The implements used are those which the individual may happen to have, such as a pen or pencil, pocketknife, finger-nail file, key, match, cigarette, etc. The vandalism occurs on impulse and usually is done surreptitiously.

* Negligent vandalism is behavior which may potentially cause damage to park facilities or resources due to thoughtlessness, indifference, or disregard. The severity of damage will vary with each incident, from insignificant to potentially catastrophic. This damage is often erosive in nature. That is to say that one incident, if left uncorrected, often makes the next incident more 'acceptable' to the park visitor, as well as the next, and the next, and so on until the areas look dilapidated and unkempt. Common examples include picking park flowers, littering, throwing knives into trees, breaking limbs off trees and loose boards from park furniture for firewood, polluting streams and lakes, abandoning campfires, etc. Because resources damaged by these acts cannot be readily restored to their original condition by a simple repair job, it is difficult to assess a dollar cost to these acts (19).

Most of these acts of incidental vandalism--whether caused by play, inquisitiveness, following examples, boredom, or negligence--are avoidable and preventable. This collection of park-damaging behaviors can be responsive to various social approaches to vandalism reduction--preventative techniques which are cheaper than the repair and replacement cost if these forms of vandalism are unchecked. These social approaches are discussed in Section Two.

► CATEGORY 4: INSTITUTIONALIZED VANDALISM

This category covers conditions under which acts of vandalism have become tolerated, acceptable, institutionalized, or "normalized," (34).

* Licensed vandalism is regarded as a nuisance and somewhat troublesome, but seldom more than that. The damage is rarely officially reported or regarded as a social problem (34). An example would be damaging a recreation center which had been rented for a private party. A common practice is to require a damage deposit in advance from which the cost of any repairs is deducted.

* Vandalism as ritual. There are certain occasions on which some vandalism is expected, condoned, or (by some) encouraged (34). One such national occasion has been Halloween. Local occasions such as high school senior prank days, club initiation nights, homecomings, or graduations, center around a "semiprotected group" whose behavior for that occasion is viewed with more tolerance than usual. Unless the behavior is excessive, the normal rules are suspended and the damage is later repaired with little fanfare. Typical examples include dumping bubblebath or detergent into recirculating fountains, putting dye or food coloring into swimming pools, painting statues, stuffing marshmallows or chewing gum into door locks, and so on.

* Sanctioned vandalism occurs when an individual, typically a park employee, is authorized to do something which, if done without permission, would obviously be vandalism. Examples include nailing "Vandals Will Be Prosecuted" signs on trees, suspending garbage cans by brackets hung on trees, posting announcements of special events on doors or walls, collecting

plant specimens for an exhibit, etc. Classic examples of sanctioned vandalism, now discontinued, include the routine dumping of burning embers over the top of Glacier Point at Yosemite National Park, and carving a tunnel through a giant Sequoia (115). While these actions were condoned at the time, now such deeds would be considered to be damaging park resources.

Appendix Three: Compendium of Vandalism Control Techniques for the Generic Categories of Vandalistic Damage

The eight generic categories of vandalistic park damage include breakage, burning, disassembly and removal, surface graffiti and marking, disfigurement, blockage, vegetative damage, and miscellaneous damage.

- The following techniques have been field tested by recreation and park agencies. Because of the individual characteristics of each community or park, not every technique is recommended for any situation. What may be very successful in one community might not be effective in another community. The list of suggestions is provided as a catalogue of ideas for park superintendents and facility managers. See Section Five for explanation of design and maintenance physical vandalism control strategies.

DISCLAIMER

In some instances, agencies have named specific products or brand names. For accuracy, these references have been left in their statements, but have been identified by the notation (TM) to indicate a trademark or proprietary name. It is emphasized that these products are those which were used by the agency cited (numbers in parentheses refer to the full citation in the bibliography). Inclusion in, or absence from, this list of any product is not intended to be an endorsement or value judgement in

behalf or in opposition to any product or company. The National Park Service has not tested these items and, by policy, does not endorse any product or manufacturer.

● A NOTE ABOUT CONTRADICTING RECOMMENDATIONS

In a few instances, agencies have provided recommendations which contradict one another. These have been cross-referenced for comparison. The rationale for each technique is included if the agency stated its reasons in the original information source. No judgement has been made regarding these recommendations which are inconsistent or different. Readers are advised to consider their own situation before selecting one technique compared to another contrasting approach.

BREAKAGE PREVENTION TECHNIQUES

► DAMAGE CATEGORY 1: BREAKAGE

Breakage--Fracturing, shattering, smashing, or crushing apparatus, equipment, or facilities, or parts thereof.

The most successful strategies to control vandalism by breakage may be incident prevention, damage reduction, and process hindrance.

PREVENTION TECHNIQUES

To prevent vandalism by breakage:

Access **1.** If feasible, control access to parks (68). Clear and secure the entire park after closing, both daily and seasonally.

2. If it is impossible to bar access to the park, secure closed buildings which contain breakable items by installing bars or grills on windows (98, 114) and heavy duty deadbolts on doors (40).

Windows **3.** Eliminate (68, 74) or use fewer ground-level windows (64). The additional lighting inside is less than the cost of replacing broken windows combined with windows' reduced insulation and resulting energy loss for heated buildings (64).

4. Replace lower windows with clerestory windows for natural lighting during the day (58). Skylights (glazed roof openings) may not be satisfactory due to leakage (64).

Lighting **5.** To eliminate interior lighting, position high post-mounted dusk-to-dawn luminaires to illuminate the interior through the clerestory windows (15).

6. Remove lamps from all unused luminaires (for example, from sports lighting after the season, or from area lighting in summer activity areas after the use season) (117).

7. Establish and enforce a "no glass" development policy in the park (117).

Plumbing 8. Do not use exposed plumbing pipes and accessories (98).
It is better to use wall-mounted flush valve buttons on the wall with hidden valves and plumbing (15). (See also 127)

Fiber-glass 9. Do not use fiberglass, which is easily broken, becomes brittle, is subject to seasonal temperature changes, and requires special repair knowledge (64). (See also 33)

Rain Gutters 10. Eliminate metal or plastic gutters and downspouts from park buildings (117).

BREAKAGE REDUCTION TECHNIQUES

DAMAGE REDUCTION TECHNIQUES

To reduce vandalism damage by breakage:

Mirrors 11. Substitute polished stainless steel for glass mirrors in park restrooms (74, 117).

12. Substitute Pleximirror (TM) Polycarbonate mirrors or Duramirror (TM) acrylic mirrors protected with transparent polycarbonate plastic in place of glass mirrors (66).

Sanitary Fixtures 13. Use stainless steel or aluminum toilets, urinals and lavatories such as Super Secur (TM) instead of porcelain, which can be quickly demolished (47, 48, 112). (See also 14)

14. A polyvinyl toilet riser may be even better than stainless steel (56). (See also 13)

15. Support wash basins and lavatories on dual wall brackets (or with metal legs). Bolt the brackets through the wall with anchor plates (106). Mount on an 'L' channel iron above wash basins and lavatories to prevent them from being lifted off the brackets.

16. Do not use toilets with exposed water closet cisterns; use concealed flush valves instead (106). (See also 8 127)

Partitions 17. Use concrete block toilet stall partitions (74) or steel stall partitions (47, 48) instead of wood.

18. Use metal channel instead of edging and use continuous channel junction brackets to attach toilet stall partitions to the back wall instead of cleats at intervals (106).

Doors 19. Lightweight, hollow-cored doors are more easily damaged than solid doors (112). (See also 20 21 48 55)

20. Use steel doors instead of wood doors (47). (See also 19 20 48 55)

21. Use 1-3/4" flush type 16 guage steel exterior doors with 20 guage vertical channel reinforcement (48). (See also 19 20 48 55)

22. Mount door hinges to swing out so that the door is more difficult to knock in because it will rest against the jamb stop (106).

23. Use kick plates on doors (106).

24. Use 16 guage steel door frames (106) with slip anchors and sill clips (48).

25. Use a minimum of three hinges for strength on door mounts (106).

26. Install heavy grills on all ventilating louvers (74).

Roofing 27. Use 28 guage terne-coated stainless steel roofing, which is slippery, instead of asphalt shingles (48).

28. Sandwich corrugated translucent fiberglass roof paneling between sheets of flat expanded metal mesh and enclose in a welded channel iron frame (56).

Wood 29. Use purple-heart and green-heart wood (high density wood approximately four times as hard as conventional wood) to reduce breakage (42). Initial cost is higher than standard grade lumber, but it is cost-effective over the life of the facility.

30. Insert recessed metal rods in wood posts, gates (98).

31. Use tongue and groove wood siding for ceilings (7). (See also 54)

32. Use poured-in-place concrete benches instead of wood (74).

Glass 33. Use glass replacements (68).
Replace-
ments

The following are only representative samples of the products available and are listed here only for illustrative purposes. Inclusion in, or absence from, this list is not intended to be an endorsement or value judgement in behalf or in opposition of any product or company.

--Thermally tempered glass--four or five times the strength of ordinary glass. Good for second story or higher. Can cut breakage by an estimated 70%.

--Corrulux (TM) fiberglass building panels--reinforced with high strength glass fibers and acrylic for weather durability, fire resistance and translucence. (See also 9)

--Tuffack Plexiglas (TM) acrylic plastic--sheets of various thicknesses that can be cut to desired dimensions. Reduces breakage up to 70%.

--Acrylite (TM) cast acrylic sheet--seventeen times the impact resistance of glass of the same thickness.

--Protect-A-Glaze (TM) pressure-sensitive window film--can be applied to windows to provide shatter resistance.

--Lexan (TM) polycarbonate plastic--reported to have 250 times the strength of glass. (See also 34 35 36)

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1 OF 2

34. Polycarbonates have poor resistance to scratching (112). (See also 33 35 36)

BREAKAGE REDUCTION/HINDRANCE TECHNIQUES

35. Polycarbonate lens for luminaires yellow and should be replaced within five years if the same quantity of illumination is to be maintained (64). (See also 33 34 36)

36. Polycarbonates can be easily burned with a cigarette lighter (64). (See also 33 34 35)

- Switches 37. Use key-operated light switches instead of toggle switches (116).

- General 38. Quick repair is important. Parks in poor condition are vandalized more often than well-maintained parks (68).

HINDRANCE TECHNIQUES

To delay or impede the process of vandalism by breakage:

- Luminaires 39. Mount post luminaires 30-40 feet high to minimize breakage from thrown rocks, etc. (64). These should be selected carefully to provide adequate lighting as well as being an attractive addition to the park.

40. Protect glass refractors on luminaires with heavy-duty mesh (116).

41. Path downlights are mounted next to walks or paths and are only a foot or so high. At this location they are very susceptible to breakage. A sturdy grill of 5/8" reinforcing rods welded together can be made to protect the glass refractors and lamps (54).

- Meters 42. Mount utility meters 8-12 feet high to reduce breakage (64). (See also 7 43)

43. Enclose utility meters in metal casings or inside a locked utility closet. (See also 7 42)

- Windows 44. Use wire mesh or protective screens over windows (68, 116).

45. Do not position wash basins or lavatories under restroom windows because of the temptation to climb on these fixtures to reach the window (106).

- Miscellaneous 46. Remove small stones and other potential projectiles from nearby buildings (68).

47. Pave areas near buildings to eliminate loose stones (98).

BREAKAGE REPAIR IMPLEMENTATION TECHNIQUES

REPAIR IMPLEMENTATION TECHNIQUES

To implement repair of vandalism by breakage:

Doors **48.** Because metal doors seem to imply that the contents of a building are valuable, they are frequently damaged and are difficult and expensive to repair. Where possible, use wooden doors. They may need replacement twice a year but they are still cheaper to repair than vandalized metal doors (64). (See also **19 20 21 55**)

BURN PREVENTION TECHNIQUES

► DAMAGE CATEGORY 2: BURNS

Burns--Combustion, charring, scorching, or singeing of flammable materials.

It appears that the most effective strategies to control vandalistic burning, scorching, or singeing are incident prevention and damage reduction.

PREVENTION TECHNIQUES

To prevent vandalism by arson:

49. Review recommendations to prevent access under "Vandalism by Breakage."

50. Store all flammable liquids and paints in secured areas (98).

51. Locate bulk waste transfer stations in secured, fireproof enclosures such as chainlink fences or masonry walls.

52. Wooden campsite markers are frequently removed and used for firewood. To eliminate costly replacement, weld 4" angle iron to the metal post which supports elevated grills at each campsite and stencil the campsite number to the sides of the angle iron facing the road (118).

BURN DAMAGE REDUCTION TECHNIQUES

DAMAGE REDUCTION TECHNIQUES

To reduce vandalism damage by burning:

53. Use lumber for park furniture which has been pretreated with a fire retardant.

54. Use plywood or sheet lumber for building partitions, walls, and ceilings which have been pretreated with a fire retardant. (See also **17 31 56**)

55. Where feasible, use noncombustible construction materials in place of wood--i.e. metal doors and door frames, masonry walls, concrete benches, etc. (See also **19 20 21 48**)

56. Restroom partitions and cubicle doors should be made of scorch- and singe-resistant materials or have fire retardant paint or other surface treatment. (See also 17 54)

57. Maintain adequate firebreaks in activity areas where open fires or grills are used (i.e. picnic groves and campgrounds).

58. In major park buildings install smoke detectors and alarms which are inaccessible to would-be vandals (98).

59. Install automatic sprinkler systems in major park buildings.

60. Locate fire hydrants within 50 feet from major park buildings and refuse transfer stations.

61. Do not use exposed PVC, ABS or other plastic utility pipes in public use areas.

62. Treat awnings, umbrellas, tents and other publicly accessible fabric items with fire retardant.

DISASSEMBLY AND REMOVAL HINDRANCE TECHNIQUES

► DAMAGE CATEGORY 3: DISASSEMBLY AND REMOVAL

Disassembly and removal--Unfastening screws, bolts, nuts, nails, or hinges to take apart a piece of equipment, apparatus or facility.

The most popular strategy to control this form of vandalism is process hindrance. Secondary strategies are incident prevention and recovery implementation.

HINDRANCE TECHNIQUES

To hinder vandalism by disassembly and removal:

Collect- 63. Mount signs at 7-foot heights when allowable (98).
ables

64. Raise luminaires, loudspeakers, and other fixtures above reaching height (98).

65. Chain or bolt down portable tables, benches, manhole covers (98).

66. Coating the entire back of a sign with grease will discourage souvenir collectors. This is not noticeable if the back of the sign is black (85).

Hardware, Locks **67.** Projecting exterior door hardware such as doorknobs should be eliminated whenever possible (45, 48, 74).

68. Use flush-mounted locks instead of padlocks (59).

69. If padlocks are used, weld the hasp to the metal door and metal doorframe instead of using screws or bolts. (See also **68**)

70. Use internal hinges, concealed hinges or pinless hinges on external doors or gates (106).

Fasteners **71.** There are a number of special fasteners or ways to mount fasteners which can impede disassembly without proper tools or techniques. These are discussed below (20).

The fasteners commonly removed by vandals are those which are used to permit convenient access, repair, disassembly, or replacement of parts by the maintenance staff. Selection of these fasteners must be based upon several considerations: (1) the materials which are being held together--wood to wood, wood to metal, metal to metal, plastic wood or metal to concrete; (2) the exposure--exterior or interior; (3) the required strength of the fastener; (4) the anticipated frequency of maintenance which necessitates removal of the fastener; and (5) the ease or convenience necessary for removal of the fastener for disassembly. Threaded fasteners--screws and bolts--are commonly used in these situations in parks and recreation areas today. Unlike nails, another type of construction fastener, screws and bolts are used because of

their combined attributes of strength and potential for removal without damaging the materials they hold. It is this characteristic that can also make these fasteners very vandalism-prone.

There is no single solution to this type of vandalism. There are, however, several alternatives which might be tried:

* Use screws/bolts which require special screwdrivers.

Threaded fasteners have heads with slotted or recessed openings and round, square or hexagon heads. The most common head is the standard or conventional slotted-head. It can be readily removed with a variety of tools--the standard keystone slotted-head screwdriver, a Swiss army knife, a spoon, etc.

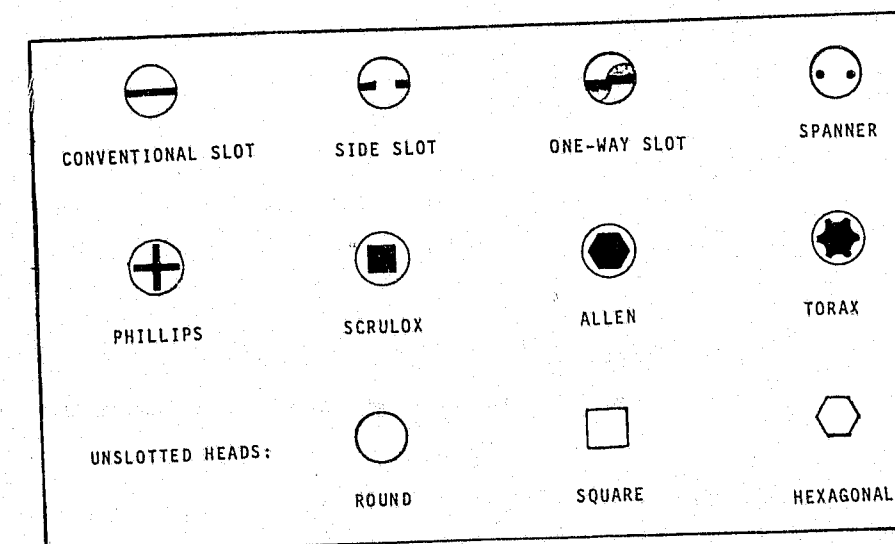


Illustration 13. Examples of screw and bolt head fasteners which require special drivers.

There are other recessed heads which require special screwdrivers. Several of these are relatively tamper-proof.

- * Countersink and fill exposed flat-head screw/bolt slots or recessed openings. Countersink so that the top of the flat-head fastener is flush with the surface. Fill the slot or recess opening with epoxy, metal putty, or solder. This has the same effect as the previous technique--it slows down and discourages a hurried would-be vandal. The filler can be softened with a soldering gun and removed with an awl or punch so a screwdriver can be used to remove the fastener.

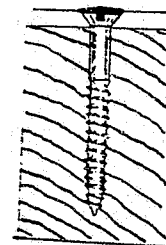


Illustration 14. Cross section of a flat-head screw countersunk with its slot filled with epoxy after insertion.

- * Use extra-long bolts and bend the excess length behind the nut. This should be done only where the bent fastener would not distract from the appearance of the item. Rebending the bolt to remove the nut may be time-consuming enough to deter would-be vandals. Maintenance people can use a bolt cutter or hacksaw to easily remove the bent portion.

- * Recess square or hex-head lag screws and bolt heads and nuts. The diameter of the sink should be large enough to receive the correct socket wrench. This will prevent removal of these fasteners by pliers, adjustable wrenches, open-end or boxed-end wrenches.

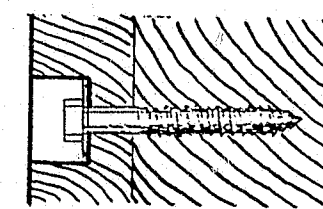


Illustration 15. Cross section of a recessed lag screw. The sink removed from the mounted wood unit is just wide enough to accept the correct socket wrench for the fastener, which is inaccessible to pliers or adjustable wrenches.

- * Recess and plug flat-head screws/bolts and nuts. Vandals are typically in a hurry. The more inconvenient and time-consuming it is to remove a fastener, the more apt they will leave it. Obviously, this should be done only where frequent removal of the fastener by park maintenance people is not necessary. On those occasions where it needs to be removed, the plug could be cracked or drilled out to expose the fastener.

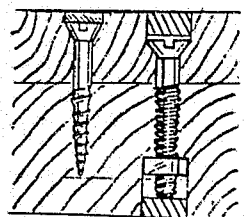


Illustration 16. Cross section of recessed and plugged fasteners. On the left is a flat-head screw; on the right is a flat-head stove bolt which has plugs over both ends.

- * Replace standard bolt nuts with elastic stop nuts. By combining this type of nut, which has a fiber or composition washer built into it, with a machine screw with a special tamper-proof head, the appropriate combination of wrench and screwdriver must be used to remove the fastener. Impulse vandals would not be apt to have these at hand.
- * Spot weld exposed nuts to the bolt threads. While this can be done in the field with a portable welder, it may be cheaper to do this in the shop for those items which can be partially assembled before final installation. A nut-cutting tool can be used to break the weld if need be for repairs.

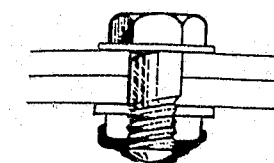


Illustration 17. Cross section of a bolt with the nut spot welded. This can be done to secure metal signs to metal posts.

- * Use pop rivets instead of small screws. This is especially successful for access panels or notice boards which are only opened or changed rarely.
- * Coat the bolt threads with heavy grease or Tanglefoot (TM), a non-drying, non-toxic sticky substance used to trap crawling insects on tree trunks.
- * Replace exposed standard bolt nuts with a tee-nut driven into the back of the supporting wood member. Use the tee-nut to secure a machine screw with a special recessed head. This will eliminate the possibility of vandals using pliers or wrenches to remove standard nuts because they can't unscrew the fasteners from the front without the special screwdriver.

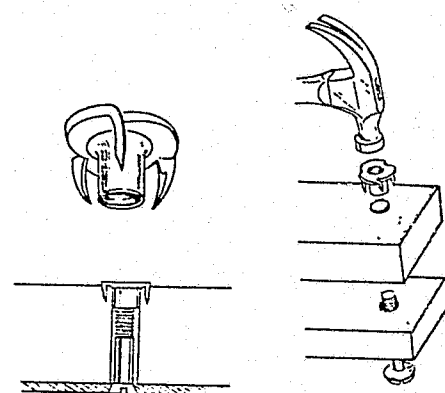


Illustration 18. Tee-nut. Cross section showing how the tee-nut is installed behind the receiving support and a sign plate or other mounted element is attached with a front screw. To the right is an illustration of how to mount a tee-nut.

- * Replace standard bolt nuts with special vandal-resistant nuts. One example is the two-piece Tufnut (TM) anti-theft nut. Used on a standard slotless carriage bolt, both pyramidal pieces must be used to fasten the nut. After tightening both with an adjustable or open-end wrench, the top piece is simply unthreaded and removed. The bottom piece cannot be removed independently because the pyramidal angles do not permit a gripping surface for tools. Another vandal-resistant nut is the Special Wrench. Conventional wrenches, socket sets, or pliers cannot hold the nut to twist it off the bolt. Another vandal-resistant nut that is available is Vandlgard Nut (TM).

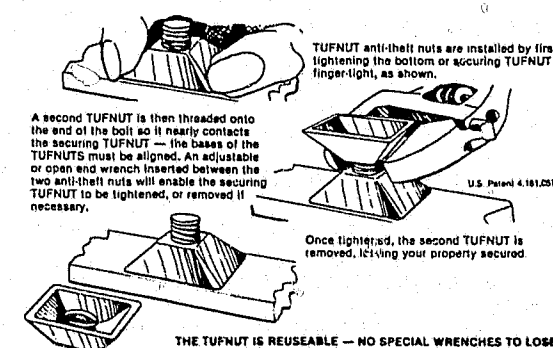


Illustration 19. The Tufnut (TM) is an example of several special vandal-resistant nuts available commercially.

DISASSEMBLY AND REMOVAL PREVENTION TECHNIQUES

PREVENTION TECHNIQUES

To prevent vandalism by disassembly and removal:

72. Review recommendations to prevent access under "Vandalism by Breakage."
73. Omit gates at necessary openings in fences if they are not needed for security (106).
74. When boardwalks are used extensively, messages can be stenciled directly onto the boardwalk instead of using trailside signs which are frequently stolen by souvenir hunters (11).
75. Instead of fastening signs to park buildings, doors, etc., paint or stencil the messages directly onto the surface.

Another successful technique has been to mount the sign to a metal sleeve which is passed over a smaller diameter metal signpost arm, after which the arm is capped (78).

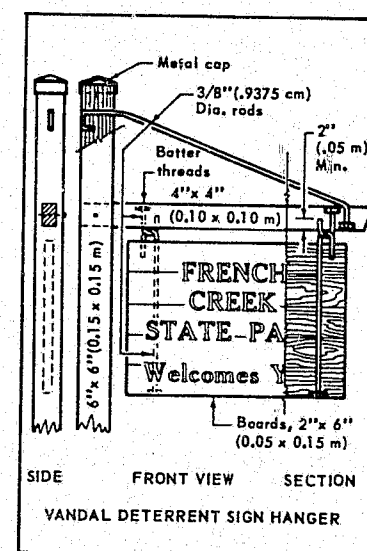


Illustration 20. These details show how a 3/8" diameter metal rod can replace easily vandalized eye-bolts in park signs. the rods are hook-shaped and drawn back into the wood a minimum of 2" (31).

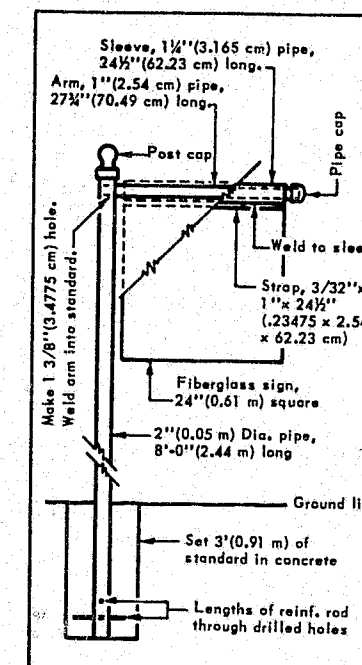


Illustration 21. This drawing shows how a sleeved signpost arm can permit complete rotation of a sign hit or swung by a vandal. The sign can be made a various materials. Shown is silk screened fiberglass or plastic, which is economical and easy to replace (78)

RECOVERY IMPLEMENTATION TECHNIQUES

To implement recovery of items taken by disassembly and removal:

77. Permanently engrave, brand, or stencil identification marks and numbers on all removable equipment or items known to be popular collectors' pieces (98).

GRAFFITI PREVENTION TECHNIQUES

► DAMAGE CATEGORY 4: SURFACE GRAFFITI

Surface graffiti or marking--Superficial writing or drawing on, or discoloring the surface of a wall, door, partition, panel, sign, or other facility or apparatus.

Most cost effective efforts have been directed to clean-up implementation and activity deflection. Some damage-reduction techniques have been useful against direct contact applications.

PREVENTION TECHNIQUES

To prevent surface graffiti, smears and markings:

- 78. Review recommendations to prevent access under "Vandalism by Breakage."
- 79. A uniform coating of paraffin or clear wax will prevent most direct contact application from marking wood or other porous surfaces, such as mortar joints, as well as providing a waterproof finish.
- 80. Dark-colored surfacing is less likely to be marked because the graffiti is not easily seen against a dark background (45).

GRAFFITI PREVENTION, HINDRANCE, AND DEFLECTION TECHNIQUES

- 81. Use dark mortar joints between glazed masonry. (See also 79 92)

- 82. A well-established covering of vines on a wall will remove the attractiveness of that wall as a graffiti surface (92).
(Not recommended for wood or other porous surfaces.)

HINDRANCE TECHNIQUES

To delay or impede the application of graffiti, smears and markings:

- 83. Rough-textured surfacing is difficult to mark on with a direct-contact applicator (98), but it is not a deterrent to sprayed or thrown applications (45).

DEFLECTION TECHNIQUES

To deflect graffiti to other more acceptable targets:

- 84. Provide bulletin boards outside campground restrooms and showerhouses for use by campers (24).
- 85. Many people have a strong urge to immortalize their visits to parks by leaving their names on walks, trees, rocks, canyon walls, etc. One successful solution was to provide registration stations at trailheads to give people an acceptable way of recording their presence (103).

86. Some success has been achieved by providing a message or graffiti board which can be 'erased', cleaned, or painted over periodically (98).

87. Mounting paper posters, reprints of jokes, short "did you know?" fact sheets about the park, etc. inside toilet doors can provide diversionary reading or, at least, an easily replaceable target for restroom graffiti.

88. Colorful murals may redirect graffiti--at least for awhile. This is especially so if the murals are painted by local residents, including youth, instead of park employees (45, 49, 68, 106).

89. Bright, bold designs on walls may redirect graffiti (79).



Illustration 22. Example of a colorful mural on the side of a park building unmarked for two years. Other sides of the same building is heavily marked with graffiti. (Photo courtesy of the Essex County, NJ Department of Parks, Recreation and Public Affairs)

DAMAGE REDUCTION TECHNIQUES

To reduce damages caused by graffiti, smearing and marking:

90. All concrete slabs and concrete blocks should be sealed with a concrete sealer to prevent graffiti and markings from being absorbed into the concrete (36). (See also 95)

GRAFFITI DAMAGE REDUCTION AND CLEAN-UP IMPLEMENTATION TECHNIQUES

91. Use nonporous materials or finishes so that graffiti and markings do not fill the pores. Examples include glossy-finish glazed tile and block, Formica (TM), epoxy sealers (47). (See also 94)

92. Reduce mortar joints to a minimum where glossy masonry units are used to minimize the area where pens, pencils, etc. can 'take' and will show. (See also 79 81)

CLEAN-UP IMPLEMENTATION TECHNIQUES

To implement clean-up of graffiti and markings:

There are several pre-incident techniques to implement clean-up of superficial markings or writings. These are generally classified as design techniques, material selection techniques, and surface coating (or sealing).

93. Restroom interiors should be designed to facilitate effective, quick cleaning, including provision of water fixtures for maintenance,

proper drainage to floor inlets, and electrical outlets for power steamers, scrubbers, wet vacuums, etc., if appropriate.

94. There are a variety of materials that have been used, in specific settings, from which it is easy to remove graffiti: (See also

91):

GRAFFITI CLEAN-UP IMPLEMENTATION TECHNIQUES

- Spectra-Glaze (TM) concrete masonry (48).
- Porcelain-glazed tile.
- Ceramic tile (106).
- Polyurethane or fluorocarbonate sheeting (106).

95. There are numerous methods and products that have been used as sealers or coatings, in specific settings, from which it is easy to remove graffiti (See also 96):

- Epoxy-based paint over porous surfacing such as concrete, concrete blocks, or brick (47).
- Seal walls with a clear-glazed, high-build inorganic color master system such as Glazetite (TM) (6).
- Use multi-colored aggregates imbedded in clear epoxy such as Quartzite (TM) (6).
- Wood or other non-metal surfaces, painted or non-painted, can

be sealed from sprayed or slapped-on paint with a thick, uniform coat of petroleum jelly (75).

- Exposed mortar joints between glazed tile can be treated with a silicon sealer, paraffin, a white wax candle, or hard floor wax (21).
- Urethane paint systems (55).
- Stone and metal statues can be regularly treated with a silicone paste wax similar to butcher wax or bowling alley wax (21).
- There are a variety of commercial products available which are recommended for pre-incident use. Some are 'absorbents' to which the paint, ink, lipstick, crayon, pencil and marking pen writing are held until they are dissolved with special solvents. Other pre-graffiti products are barrier shields which will not accept these markers and which can readily be wiped or cleaned off (21).

Before using any cleaning agent, determine what the substance will do to the surface. It is possible to harm polished or cut stone, masonry, wood or metal surfaces by using unsuitable cleansers and chemicals when attempting to remove graffiti.

The following are representative of the products available and are listed here only for illustrative purposes. Inclusion in, or absence from, this list is not intended to be an endorsement or value judgment in behalf or in opposition of any product or company.

Graf Shield (TM)--State Enterprises Division of Pride Laboratories, Inc., Farmingdale, NY.

Vandl Guard (TM)--Rainguard Products Co., Los Angeles, CA.

Anti-Graffiti Glass Hide (TM)--Perma-Coatings, Inc., Melrose Park, IL.

Anti-Graffiti Coating (TM)--S & S Chemical Corp., Chicago, IL.

Graffiti-base (TM)--Rainproof Technical Coating system, Inc., North Hollywood, CA.

Graffiti-catcher (TM)--Rainproof Technical Coating System, Inc., North Hollywood, CA.

Hydron 300 (TM)--Masonry Protective Coatings, Inc., Philadelphia, PA.

Rulcoat (TM)--Rulon Company, Souderton, PA.

Koppers Protective Coating (TM)--Koppers Co., Inc., Pittsburgh, PA.

96. Some of the sealers will noticeably yellow with age. This is particularly apparent on polished stone.

97. There are also numerous post-incident product cleaners, solvents, or detergents which help remove the marks or residue left by various graffiti media. Their products vary in strength and effectiveness. Some are appropriate for minor damage, others may be cost effective only for severe cases. (21, 55). (See also 98)

The following are representative of the products available. No value judgment is intended by the inclusion or absence of any product on this list. Follow manufacturer's instructions for all products. Use protective clothing and take safety measures when necessary.

Abrasive Action Cleaner (TM)--Misco International Chemicals, Inc., Baltimore, MD.

All-Purpose Solvent (TM)--Misco International Chemicals, Inc., Baltimore, MD.

West Graffiti Remover (TM)--West Chemical Products Co., Long Island City, NY.

Vandl Clean (TM)--Rainguard Products Co., Los Angeles, CA.

Vandl Clean Super (TM)--Rainguard Products Co., Los Angeles, CA.

Perma-Coat Graffiti Remover (TM)--Perma-Coats, Inc., Melrose Park, IL.

Remove-All (TM)--Custodi-All Division of Curtis Industries, Inc., East Lake, OH.

Graffiti Remover (TM)--S & S Chemical Corp., Chicago, IL.

Vandalism Mark Remover (TM)--United Laboratories, Addison, IL.

Graffiti-raser (TM)--Rainproof Technical Coating Systems, Inc., North Hollywood, CA.

Defacer Eraser (TM)--ProSoCo, Inc., South Plainfield, NJ.

98. Park departments have used common cleansers and techniques have been devised which were successful in removing graffiti (92) (See also 97):

Before using any cleaning agent, determine what the substance will do to the surface. It is possible to harm polished or cut stone, masonry, wood or metal surfaces by using unsuitable cleansers and chemicals when attempting to remove graffiti.

- Liquid paint remover applied with a rotary wire brush attached to an electric drill.
- Muratic acid applied 1/2 strength.

- A hot solution of trisodium phosphate (applied while wearing rubber gloves).
- Acetone. (Can explode--extreme caution necessary.)
- Especially for latex paint graffiti:
 - High pressure water jet.
 - Granular detergent and light scouring with a steel wool pad.
 - Steam cleaning.
- Especially for oil-based paint graffiti:
 - Carbon tetrachloride and wire brushing. (Use protective clothing and skin protection.)
 - Diesel fuel.
 - Paint remover and rubbing with coarse sawdust.
 - Methyl alcohol.
 - Mix lacquer thinner with plaster of paris, paste plaster on surface; let dry and then remove.
- Paint sprayed on rocks can be removed with an acetylene burning torch (8).

DISFIGUREMENT PREVENTION TECHNIQUES

► DAMAGE CATEGORY 5: DISFIGUREMENT

Disfigurement--Scratching, cutting, denting, carving, gouging, or penetrating through the surface, either exposing the undersurface or making a hole completely through the item.

The most effective strategies to control vandalism by disfigurement are incident prevention and damage reduction.

PREVENTION TECHNIQUES

To prevent vandalism by disfigurement:

- 99.** Review recommendations to prevent injury under "Vandalism by Breakage."
- 100.** Do not paint whenever possible--use stains, leave the surface natural, or purchase pre-treated products (59). (See also **17 114**)
- 101.** Do not use soft surface material, particularly if the surface color contrasts with that of the substrata (84, 106).
- 102.** Painted metal toilet partitions may soon acquire permanent disfiguration. One-half inch solid laminated, hard synthetic sheeting with a Formica (TM) finish has been found to attract less vandalism and is less expensive to maintain (77) (See also **91 100 114**)

103. Use cast concrete instead of wood for picnic tables, benches, etc.

104. Special synthetic surfacing on tennis courts, gymnasium floors, tumbling mats, etc., should be used only where access is controlled and security is provided during closed periods.

DAMAGE REDUCTION TECHNIQUES

To reduce damage by disfigurement:

Concrete 105. Do all concrete work when the public is not in the park and reschedule staff hours to cover curing period. Contractors should be required to provide security until concrete has set.

106. Add quick-curing compounds to concrete mixes.

107. Make pre-planned impressions into the concrete if it is to be located in a prominent place rather than providing a 'clean slate' for unauthorized concrete writers. Examples of how to use fresh concrete creatively include making woodgrain textures, brick or stone patterns, leaf imprints, animal footprints, signatures/impressions of notable local or other significant people, set flat metal artifacts into the wet concrete, sprinkle pea gravel on the surface and work into the surface, etc.

Wood 108. Use high density wood instead of soft woods. (See also 29)

109. Use wood treated with a petrifying agent, such as 3APR (TM) plastic resin from Al-Chem, Inc.

Metal 110. Use Cor-ten (TM) steel, which obtains a protective coat of natural rust, instead of painting metal (58).

111. Cover solid metal signs or interpretive messages with expendable Plexiglas (TM) polycarbonate which can be replaced inexpensively after taking abuse for two or three years. This is cheaper than replacing disfigured metal signs.

112. Use well-secured hard metals such as bronze, brass, or iron in cast signs or statuary instead of using soft metals such as aluminum, copper, or lead.

113. Use perforated carbon steel stock in place of aluminum blanks for traffic signs. Message and color is evident on perforated signs but shotgun and rifle bullet damage are less obvious.

Paints, plastic 114. Most paints have little or no inherent strength to resist attack--they are easily scratched, fractured, or peeled. Two types of film do offer some sort of resistance: those that are polyurethane-based, which has some degree of impact-resistance; and stain, which colors porous materials to a sufficient depth to make scratches less noticeable (106). (See also 100)

115. Routinely polish plastic surfacing and glazing with Novus Plastic Polish #2 (TM), (66).

Rubber **116.** Use rubber belt swing seats which have a metal band or strip imbedded inside the rubber.

DEFLECTION TECHNIQUES

To deflect vandalism caused by disfigurement:

117. Provide a carving log upon which people are encouraged to carve their names (66). Other designated facilities for 'sanctioned' carving include a playground 'totem pole' or one specific picnic table, or mounted soft pine 2x12 lumber.

HINDRANCE TECHNIQUES

To hinder vandalism caused by disfigurement:

Concrete **118.** Cover fresh concrete with a wet tarp and secure the sides down.

119. Keep fresh concrete under close supervision until it has cured.

Other **120.** Vines can be planted to cover walls which might be disfigured (92). (Not recommended for wood or other porous surfaces.)

BLOCKAGE PREVENTION TECHNIQUES

► DAMAGE CATEGORY 6: BLOCKAGE

Blockage--Obstructing, plugging, or stopping utility supply or wastelines.

Only two strategies were identified in the literature: incident prevention and implementation of repair and clean up.

PREVENTION TECHNIQUES

To prevent vandalism by blockage:

Water **121.** Review recommendations to prevent "Vandalism by Breakage."
Fixtures

122. Sometimes blockage is the result of a perceived need. When individual sink faucets provide hot or cold water, a plug is necessary to mix the water to a warm temperature. Sink plugs are frequently missing so it becomes "necessary" for a user to stuff the drain with paper, etc. To prevent blockage due to missing plugs, use captive sink plugs instead of chained plugs (106). (See also **123 124**)

123. A faucet tap dispensing blended water (hot and cold) may repay the higher original cost (112). (See also **124**)

124. Provision of only cold water may eliminate the desire to mix hot and cold water in the basin, if local health codes permit. (See also **123**)

125. Omit wash basins with overflow drains. These can be easily blocked with paper and are difficult to clear.

126. Replacing paper handtowels with electric hand dryers removes a ready supply of blockage material (106).

127. Use flush valves instead of water closet cisterns in park restrooms. These cisterns are too easily filled with sand, rocks, paper, etc. (116). (See also 8 16)

Electric Receptacles 128. Use weather-proof rubber or grounded metal caps on electric receptacles to reduce instances of blockage.

REPAIR AND CLEAN-UP IMPLEMENTATION TECHNIQUES

To implement repair and clean-up vandalism by blockage:

Water Fixtures 129. Use drinking fountains which have convenient access to waste line traps (116).

130. Install oversize waste lines to accommodate rocks, sand, wads of toilet paper, or handtowels (58).

VEGETATIVE DAMAGE/LOSS PREVENTION TECHNIQUES

► DAMAGE CATEGORY 7: VEGETATIVE DAMAGE/LOSS

Vegetative Damage/Loss--Breaking, chopping, burning, nailing, making ruts or removing trees, shrubbery, flowers, turf or groundcover.

Because of the great variety of ways that plant materials can be vandalized, there are many strategies to control vandalism to these items--incident prevention, hindrance, and deflection, as well as damage reduction.

PREVENTION TECHNIQUES

To prevent vegetative damage/loss by vandalism:

131. Review recommendations to prevent "Vandalism by Breakage."

132. Fence in ballfields to prevent vehicular access (50).

133. Use baffle entrances in place of fence gates to control bicycle and motorcycle access onto turf fields (92).

134. Install a chainlink fence along a new hedge row and allow the bushes to grow through the fence or use a fence and vines instead of a hedge (116).

135. Spray evergreen trees adjacent to roads with water-soluble poster paint or an odor-repellent such as meat meal or bone meal slaughterhouse by-products, or a sulfur dioxide compound in early December to make them undesirable as Christmas trees. These materials will weather and wash off by spring and will not damage the trees.

HINDRANCE TECHNIQUES

To hinder vegetative damage/loss by vandalism:

136. To reduce loss of newly planted balled and burlapped plantings, wrap each ball in a heavy-duty chicken wire basket secured by hog rings; tie each basket to a rod driven below ground. In group plantings, link all the baskets together with hog rings--roots can easily grow through the buried wire basket but the anchoring will impede a theft.

137. Protect young trees with barrier guards (98).

138. Sturdy barriers of wood, steel, or concrete, when used in combination with curbs, low walls, or breaks in grade, may be more effective than barriers alone in blocking cars from turf areas (45).

139. Bollards, curbing, plant materials, and swales discourage joy riding over turf areas (64, 92).

140. Staking newly planted trees with steel fence posts protects the tree from being pulled over (92).

141. An application of Tanglefoot (TM), a non-drying, non-toxic sticky substance, on the trunks of small trees where they are likely to be grabbed and pulled over can be helpful (92).

142. Thorny trees and bushes are not apt to be stolen or damaged (98).

DEFLECTION TECHNIQUES

To deflect actions damaging to vegetation:

143. Provide metal lantern stands at established campsites to reduce the need to drive nails in trees as lantern hangers.

DAMAGE REDUCTION TECHNIQUES

To reduce vegetative damage by vandalism:

144. Plant large trees, which stand a better chance against breakage than smaller trees during establishment (92).

145. Large, thorny "anti-personnel" plants protect themselves (92).

MISCELLANEOUS VANDALISM CONTROL MANAGEMENT TECHNIQUES

► DAMAGE CATEGORY 8: MISCELLANEOUS

Miscellaneous forms of vandalism--There are some forms of vandalism which do not fit into any of the previous categories. Some strategies have been mentioned in the literature:

146. Dumping detergent into recirculating fountains--Use fabric softener in fountains to reduce sudsing (98).

147. Dumping benches, etc. into park water bodies--Replace lightweight portable park furniture with heavy-duty, permanently anchored furniture (116).

148. Leaving faucets or watercocks open and flooding an area--Locate watercocks in streetwasher containers with a key-operated cover lock (106) or use key-operated faucets instead of a wheel shut-off valve (116). Use spring-loaded faucets or timer valves.

149. Killing or maiming animals--In municipal parks, keep wildlife or domesticated park animals in a safe, secured paddock or pen or under surveillance. In rural parks, irregular patrolling may be effective.

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Note: The number preceding each item is the reference citation used to credit source material throughout this manual. Citations appear as a parenthetical superscript following the material. This is an example (120).

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