

Adapting a Tourism Crime Typology: Classifying Outdoor Recreation Crime

JOANNE F. TYNON AND DEBORAH J. CHAVEZ

Using a qualitative approach, the authors tested a crime typology developed for tourism destinations in a U.S. National Forest recreation setting. Specific objectives were to classify the attributes of crime and violence, examine the effects of crime and violence on visitor demand, and suggest methods of prevention and recovery. A key modification to the crime typology prior to data collection was to anchor it to crime- and violence-activity categories revealed from an earlier study. Several recommendations are given, with the understanding that they derived from the first run of the crime typology in a U.S. National Forest setting. These include refinements of key typology measures of motivations, victims, severity, frequency, and riots.

Keywords: crime; crime typology; national forests; violence

Crime in leisure settings is a growing problem (Manning et al. 2001; Pendleton 2000), and it represents a danger to recreation visitors and federal land staff alike (Chavez and Tynon 2000). Public pleasuring grounds are increasingly experiencing problems more typically associated with urban settings, such as robbery, drugs, gang violence, and murder (Pendleton 1996), and while research on leisure, stress, and coping (for an overview, see Schneider and Iwasaki 2003) helps to better understand the consequences of crime to visitors, there is surprisingly little in the natural-resource literature about the nature of criminal activity on public recreation lands and how to manage for it.

Tourist and tourism destinations have long been targets of crime and violence (Schiebler, Crotts, and Hollinger 1996), and the negative effects of criminal activities on tourism demand, particularly from an economic perspective, have been studied (Enders, Sandler, and Parise 1992; Gu and Martin 1992; Sonmez, Apostolopoulos, and Tarlow 1999). Adapting a tourism crime typology to public recreation areas in U.S. National Forests will allow managers, law enforcement officers (LEOs), and others to examine the crime/violence phenomenon and suggest methods of prevention and recovery.

Pizam (1999) created such a tourism crime typology to classify the attributes of acts of crime and violence at tourism destinations around the world. He developed his typology from a qualitative examination of 10 years' worth of crime reports in newspapers, weekly magazines, and professional tourism periodicals. In his typology, Pizam identified the attributes of crime as well as the differential effects on tourism demand and on the parties responsible for crime prevention and recovery. To fill in the gaps of his literature review,

Pizam also conducted a series of interviews with law enforcement officials and others. He then challenged researchers to test the results of his pilot study. This research is a response to his challenge to field-test the crime typology, using a qualitative approach to confirm the efficacy of the crime typology in a U.S. National Forest outdoor recreation setting. This is the first study to test Pizam's typology.

DATA COLLECTION ON NATIONAL FORESTS

Obtaining statistical crime data for U.S. National Forests is difficult because of how U.S. Forest Service (USFS) law enforcement data are collected and reported. Local and county sheriffs often have cooperative law enforcement agreements with the USFS. Sheriffs record incidents using categories based on the FBI Uniform Crime Reporting (UCR) guide (Federal Bureau of Investigation 2002). Part I of the UCR includes categories such as criminal homicide, forcible rape, robbery, aggravated assault, burglary, larceny, motor-vehicle theft, and arson. Part II includes other assaults, stolen property (by buying, receiving, possessing), vandalism, weapons (carrying, possessing), narcotic-drug-law violations, driving under the influence, liquor-law violations, drunkenness, and disorderly conduct. Part III of the UCR is about assists to USFS LEOs and assists to the public, where state or local law enforcement personnel contribute to USFS enforcement efforts. While this information can be made available, local LEOs and sheriffs do not specifically tie data to incidents on USFS lands; data are all combined. Thus, it is not possible using these data to separate out data related to criminal activity for USFS lands.

In addition to the data that cooperative law enforcement agencies collect, LEOs for the USFS have their own database to record crime incidents, also using categories from the UCR guide. LEOs also use forest- or land-management-specific categories (e.g., campfire where prohibited, camping where prohibited, violating curfew). They record observations of problems, verbal warnings, and written warnings

Joanne F. Tynon, Ph.D., is a social scientist in the Forest Recreation Resources Program, College of Forestry, at Oregon State University, Corvallis. Deborah J. Chavez, Ph.D., is a project leader and research social scientist for the USDA Forest Service, Pacific Southwest Research Station in Riverside, California.

Journal of Travel Research, Vol. 44, February 2006, 298-307
DOI: 10.1177/0047287505278986
© 2006 Sage Publications

(together, these are the total violations). They also record tickets given. Total violations and tickets written equal the total incidents or occurrences. A significant problem is getting data into the database.

Originally, crime data were entered into a USFS database system called Law Enforcement Management Attainment Reporting System (LEMARS). A few years ago, the USFS transported all data into a new database program, Law Enforcement and Investigations Attainment Reporting System (LEIMARS). Unlike LEMARS, LEIMARS includes Geographic Information System data as well as investigative information. Unfortunately, information at some sites was permanently lost during the transfer process. Problems with the new system (i.e., some data were either not recorded or disappeared after being entered into the program) are being corrected.

While it is difficult to statistically substantiate how much crime is happening on USFS lands, managers nevertheless report that many types of crime are on the increase (Chavez and Tynon 2000; Tynon, Chavez, and Kakoyannis 2001). And while the number of crimes and other incidents in U.S. National Forests and on grasslands was estimated to have doubled in the past 5 years, the number of USFS officers and investigators has remained almost unchanged (Bureau of Census 2002). In 2003, there were 460 uniformed USFS law enforcement personnel and 120 special agents for 191 million acres, or about 1 officer per 329,000 acres (Stannard 2003).

Adoption of Pizam's (1999) tourism crime typology to public recreation areas in U.S. National Forests will allow managers and LEOs to better examine the effects of crime and violence on outdoor recreation and to implement prevention and recovery methods. The specific objectives of this investigation were to examine the crime/violence phenomenon in an outdoor recreation setting, to examine the effects on recreation demand, to examine the effectiveness of prevention and recovery methods, and to identify the parties responsible for prevention and recovery.

METHOD

Field interviews conducted while testing Pizam's (1999) crime typology confirmed the difficulty of obtaining statistical crime data for U.S. National Forests. Thus, the testing of the crime typology rested solely on a qualitative approach. The research design was case-study research, a method appropriate at the exploratory stages of the research process (Graziano and Raulin 1989; Stainback and Stainback 1988). Within the qualitative paradigm, the aim of case-study research is to describe, understand, and explain (Crabtree and Miller 1992; Hamel, Dufour, and Fortin 1993; Yin 1993). Case-study methods are appropriate when one wants to (1) broadly define topics; (2) investigate phenomena within context, particularly when the boundaries between phenomena and context are difficult to separate; and (3) rely on multiple sources of evidence (Yin 1993).

We interviewed personnel knowledgeable about crime at a national forest in USFS Region 4 (Idaho, Nevada, and Wyoming). The unit of analysis for the case study is the national forest. Conventional research protocols regarding confidentiality preclude divulging locality information beyond the regional level. The interviews took 12 hours

overall. Responses were limited to incidents that had occurred within the 12 months prior to the interviews.

Nomenclature modifications to Pizam's (1999) crime typology (see Table 1) were used to facilitate testing in an outdoor recreation setting. For example, every occurrence of the word *tourist* was changed to *visitor*, and every occurrence of *tourism* was changed to *recreation*. Additions were also made. *Forest Service (USFS) personnel* was added to the victim list, and a perpetrator category was added as a way to characterize who or what type of group or group member was committing the crime. *Parties responsible for prevention and recovery* was expanded to account for USFS, state, and/or local entities. The *marketing* portion was dropped as a recovery method used in recreation settings because this activity is not one frequently, if ever, engaged in at the field-office level.

A key departure from Pizam (1999) was anchoring the crime typology to crime- and violence-activity categories revealed from an earlier study on national forests in the western United States (Chavez and Tynon 2000; Tynon, Chavez, and Kakoyannis 2001). The criminal activities from that study were grouped into five categories: (1) urban crime (e.g., arson, body dumping, domestic violence, drive-by shooting, gang activity, murder, rape and sexual assault, suicide, and theft); (2) assault (e.g., personal assault, criminal property damage, and threats against property); (3) drug activity (e.g., marijuana cultivation, methamphetamine labs, methamphetamine chemical dumps, and armed defense of crops); (4) takeover or violence perpetrated by members of extremist or nontraditional groups (e.g., satanic cults, white-power groups, EarthFirst!, wise use, motorcycle groups, survivalists, militia/supremacy groups, and property rights groups); and (5) other (e.g., armed defense of forest products, dumping of chemicals, dumping of household waste and landscape materials, homeless people taking up residency in the forest, and trespassing by undocumented immigrants).

A matrix was developed to facilitate data collection. Pizam's (1999) classification attributes were placed in the first column, and the crime- and violence-activity categories were listed across the top of the page. The process of moving through the matrix was straightforward. The authors asked respondents about crime and violence by activity category and accounted for occurrences with a "yes" or that cell remained blank. For example, if arson had occurred within the past 12 months, the respondent was asked to characterize the motive for arson based on Pizam's four motivation choices (i.e., economic, social, political, personal). Questions continued until responses to all of the classification attributes were recorded. If no arson had occurred, that column remained blank, and the authors asked the respondent about the next crime- or violence-activity category. The authors made no attempt to operationalize concepts; respondent interpretations were part of the investigation. The authors completed separate instruments and resolved discrepancies using transcripts of the taped interviews. Although the intention was to streamline data collection, the instrument template was seven pages long. Instrument length and respondent feedback contributed to the 12 hours it took to complete the interviews. Analysis consisted of counting all "yes" responses and reviewing all feedback on the classification attributes measured.

TABLE 1
MODIFIED CRIME TYPOLOGY

1. Nature of criminal or violent act
 - Motive
 - Economic
 - Social
 - Political
 - Personal
 - Victim
 - Residents
 - Political figures
 - Famous personalities
 - Visitors
 - FS personnel
 - Businesses (all types)
 - Location
 - Started on-site
 - Started off-site
 - Severity
 - Loss of property
 - Bodily harm
 - Loss of life
 - Mass destruction of life or property
 - Frequency
 - Rare (once a year or less)
 - Occasional (2-3 times a year)
 - Rapid succession (every month)
 - Constant (several times a month)
 - Type
 - Crime
 - Civil or political unrest
 - Riots
 - Terrorism
 - War
 - Perpetrator
2. Effects on recreation demand
 - Intensity
 - No effect
 - Slight decrease
 - Significant decrease
 - Drastic decrease
 - Cessation
 - Expanse (geographic area affected)
 - Local
 - Regional
 - National
 - Duration
 - Short (a few weeks)
 - Medium (2-4 months)
 - Long (more than one recreation season)
 - Indefinite
3. Prevention methods
 - Legislation
 - Enforcement
 - Safety and security training for employees
 - Installation of security devices
 - Visitor education
 - Citizen's awareness
 - CPTED
 - Social change
 - Political solutions
4. Parties responsible for prevention
 - FS
 - Community
 - Recreation industry
 - Visitors

TABLE 1 (continued)

- Businesses
- State
- Local
- 5. Recovery methods
 - Information dissemination
 - Visitors
 - Citizens
 - Employees
 - Publicity and public relations
- 6. Parties responsible for recovery
 - FS
 - State
 - Local
 - Recreation industry
 - Businesses
 - Community

Source: Modified from Pizam (1999).

Note: CPTED = Crime Prevention through Environmental Design; FS = Forest Service.

RESULTS

Crime and Violence Classification Matrix

In the 12 months prior to our visit to USFS Region 4, authorities dealt with arson, domestic violence, thefts, gang activity, indiscriminate or deliberate shooting, and one incident of body dumping (Table 2). They also encountered assaults and threats against personnel and property, marijuana cultivation, armed crop defense, methamphetamine labs, and problems with members of satanic cults and property rights groups. There was one incident with survivalists. Other problems included dumping of household or landscape waste, chemical dumping, homeless people taking up residency in the forest, and problems associated with undocumented immigrants. Table 3 shows the complete crime and violence classification matrix for Region 4 in transposed format.

The Nature of a Criminal or Violent Act

Motive. There were four motives to choose from: economic, social, political, and personal (Table 3). Respondents elected to assign multiple motives for each crime or violence activity, with two exceptions. Respondents noted that indiscriminate shooting was politically motivated and that threats against personnel were personal.

Victim. Possible victims of criminal or violent acts that respondents could select included residents, political figures, famous personalities, visitors, USFS personnel, and businesses. The primary victims of USFS crimes are recreation visitors and USFS personnel. Occasionally, residents who lived adjacent to USFS land or who had in-holdings were affected, as were taxpayers in general. Respondents listed businesses as victims of theft and illegal acts committed by members of property rights groups. There were no reports with political figures or famous personalities as victims. In the

(continued)

TABLE 2
CRIME- AND VIOLENCE-ACTIVITY
CATEGORIES FOR USFS REGION 4

Crime Type	Region 4
Urban-associated crime	
Arson	Yes
Domestic violence	Yes
Thefts	Yes
Gang activity	Yes
Body dumping	One incident
Rape/sexual assault	
Indiscriminate shooting	Yes
Suicide	
Murder	
Drive-by shooting	
Assaults	
Criminal property damage	Yes
Personnel threat	Yes
Threats against property	Yes
Drug activity	
Marijuana cultivation	Yes
Methamphetamine labs/manufacture	Yes
Armed crop defense	Yes
Criminal members of . . .	
Satanic cults	Yes
White-power group	
EarthFirst!	
Wise use	
Motorcycle group	
Survivalists	One incident
Militia/supremacy group	
Property rights groups	Yes
Other	
Dump household or landscape waste	Yes
Dump chemicals	Yes
Homeless	Yes
Undocumented immigrant	Yes
Forest product defense	

Note: USFS = U.S. Forest Service.

cases of criminal property damage or threat and of chemical dumping, respondents declined to list any victims.

Location. Respondents could choose between criminal acts that occurred on-site or those that occurred off-site. Most criminal or violent activities occurred both on- and off-site. Those that occurred only on-site were domestic violence, indiscriminate shooting, threats against property, armed defense of marijuana crops, and trespassing by undocumented immigrants, although these activities could have been initiated off-site.

Severity. Criminal or violent acts ranged in severity from loss of property to bodily harm, loss of life, and mass destruction of life or property. Out of 17 criminal activities, 9 involved property loss, 3 involved destruction of property, 2 included bodily harm, and 1 involved the loss of one life. Respondents added *psychological trauma* to account for the effect of USFS personnel being subjected to threats. There were no reports of mass destruction of either life or property. There were no severity notations for indiscriminate shooting, methamphetamine lab/manufacture, armed defense of mari-

juana crops, household and chemical dumping, and criminal acts of satanic cultists or undocumented immigrants.

Frequency. The frequency with which criminal or violent activities occurred during the 12 months prior to the interviews varied from *rarely* (once a year or less), to *occasionally* (2-3 times a year), to *rapid succession* (every month), to *constantly* (several times a month). Rare crimes at this site were arson, methamphetamine lab/manufacture, armed defense of marijuana crops, and trespassing by undocumented immigrants. Crimes that occurred only occasionally were domestic violence, gang activities, indiscriminate shooting, threats against USFS personnel, and marijuana cultivation. Property threats and criminal acts associated with the homeless were monthly occurrences. Crimes that occurred with constant frequency were theft, criminal property damage, illegal acts committed by members of property rights groups, and dumping of household as well as chemical waste. Problems with satanic-cult members were ongoing, although criminal activity spiked during some months.

Type. A criminal or violent act could be a crime, the result of civil or political unrest, a riot, an act of terrorism, or an act of war. Respondents noted that all the categories were actual crimes except for threats to personnel, which they listed as the result of civil or political unrest. Six crimes earned dual distinction as a crime and the result of civil or political unrest: theft, criminal gang activity, criminal property damage, threats to personnel, property threats, and crimes perpetrated by property rights or state's rights groups. Only criminal property damage was attributed to terrorism.

Perpetrators. This category was open ended. Respondents often described perpetrators as a "mixed bag," "anyone," or people from "all walks of life." In a few cases, respondents narrowed the range to "adults," "juveniles," "white males," or "Hispanic male adults." Criminal gang members were males and females, preteens to adults in their early 20s. White adult males were thought responsible for arson and threats against USFS personnel, while Hispanic adult males were thought responsible for the armed defense of marijuana crops and the trespassing of undocumented immigrants.

Effects on Recreation Demand

Intensity, expanse, and duration. Intensity ranged from *no effect*, to *slight decrease*, *significant decrease*, *drastic decrease*, and *cessation*. All criminal and violent acts in the study area fell into the *no effect* and *slight decrease* ranges. Respondents reported that most crimes (11 out of 17 reported criminal and violent acts) had no effect on recreation demand (defined by respondents as visits to the forest). Crimes that resulted in only a slight decrease in recreation demand were arson, illegal activities of satanic-cult members, crimes committed by members of property rights groups, dumping of household waste, chemical dumping, and homeless people taking up residency in the forest. Expanse, or geographically affected area, choices were local, regional, or national. Respondents noted that the effects of most crimes were limited to local or to local and regional. Only theft, criminal property damage, and criminal acts of those affiliated with property rights groups had any national effect. Duration on recreation

TABLE 3

CRIME AND VIOLENCE CLASSIFICATION MATRIX: THE EFFECT OF CRIMINAL ACTIVITY ON RECREATION DEMAND

Category	Act				Effect		Prevention			Recovery				
	Motive	Victim	Location	Severity	Frequency	Type	Perpetrator	Demand	Expanse	Duration	Prevention Method	Responsible for Prevention	Recovery Method	Responsible for Recovery
Arson	Economic Political Personal	Visitors FS personnel	On- and off-site	Loss of property Bodily harm Loss of life	Rare	Crime	White male adults	Slight decrease	Local	Short	Le + Enf. + CA + PS	FS + S + Lo	In.	FS + S + Lo + B + C
Domestic violence	Economic Social Personal	Visitors FS personnel	On-site	Loss of property Bodily harm	Occasional	Crime	Variable	No effect	Local	Short	Le + Enf. + SST + PS	N/A	N/A	N/A
Theft	Economic Social Political Personal	Residents Visitors FS personnel Businesses	On- and off-site	Loss of property Destruction of property	Constant	Crime C/P unrest	Variable	No effect	Local Regional National	Short	Enf. + SST + ISD + Ed. + CA	FS + C + R/ Ind. + B + S + Lo	In. + P/PR	FS + C + S + Lo
Gangs	Social Political Personal	Visitors FS personnel	On- and off-site	Loss of property	Occasional	Crime C/P unrest	M, F, preteen to early 20s	No effect	Local Regional	Short	SST + CA	FS + S + Lo	N/A	N/A
Shooting	Political	FS personnel	On-site	N/A	Occasional	Crime	Resident	No effect	Local	Short	Enf. + SST	N/A	N/A	N/A
Criminal property damage	Economic Social Political Personal	N/A	On- and off-site	Loss of property Destruction of property	Constant	Crime C/P unrest Terrorism	Variable	No effect	Local Regional National	Short	Enf. + SST + ISD + Ed. + CA + CPTED	FS + R/Ind. + B + S + Lo + Media	In. + P/PR	FS
Personnel threat	Personal	FS personnel	On- and off-site	(Psychological trauma)	Occasional	C/P unrest	White male adult	No effect	Local	Medium	Le + Enf. + SST + SC + PS	FS	In. + P/PR	FS
Property threat	Economic Social Political Personal	N/A	On-site	Loss of property	Rapid succession	Crime C/P unrest	Variable	No effect	Local Regional	Short	Enf. + SST + Ed. + CA + CPTED + SC	FS + S + Lo	In. + P/PR	FS
Marijuana cultivation	Economic Social Personal	Visitors FS personnel	On- and off-site	Loss of property	Occasional	Crime	Adults	No effect	N/A	N/A	Enf. + SST	FS + S + Lo	In.	FS + S + Lo
Metham- phetamine lab/ manufacture	Economic Social Personal	Visitors FS personnel	On- and off-site	N/A	Rare	Crime	M, F adults, juveniles	No effect	N/A	N/A	Enf. + SST + Ed. + CA	FS + S + Lo	N/A	N/A
Armed crop defense	Economic Personal	FS personnel	On-site	N/A	Rare	Crime	Hispanic males	No effect	N/A	N/A	Unknown	N/A	N/A	N/A
Satanic cults	Social Personal	Visitors FS personnel	On- and off-site	N/A	Occasional Rapid succession	Crime	Variable	Slight decrease	Local	Short	SST	FS + S + Lo	N/A	N/A
Property rights group (state's rights)	Economic Social Political Personal	Taxpayers Visitors FS personnel Businesses	On- and off-site	Loss of property Destruction of property	Constant	Crime C/P unrest	M, F white adults	Slight decrease	Local Regional National	Indefinite	Enf. + SST + ISD + Ed. + CA + PS	FS	In.	FS

Dump household waste	Economic Personal	Taxpayers	On- and off-site	N/A	Constant	Crime	Variable	Slight decrease	Local	Indefinite	Le + Enf. + SST + Ed. + CA	FS + C + R/ Ind. + B + S + Lo	In. + P/PR	FS + S + Lo
Dump chemical waste	Economic Personal	N/A	On- and off-site	N/A	Constant	Crime	Variable	Slight decrease	Local	Indefinite	Le + Enf. + SST + Ed. + CA	FS + C + R/ Ind. + V + B + S + Lo	In.	FS + S + Lo
Homeless	Economic Social Political Personal	Visitors	On- and off-site	Loss of property	Rapid succession	Crime	M, F adults, children	Slight decrease	Local Regional	Medium	Enf. + Ed.	FS + C	N/A	N/A
Undocumented immigrants	Economic Personal	Visitors FS personnel	On-site	N/A	Rare	Crime	Hispanic male adults	No effect	N/A	N/A	PS	FS + S + Lo	N/A	N/A

Note: N/A = Not applicable; C/P unrest = Civil or political unrest; Le = Legislation; Enf. = Enforcement; SST = Safety and security training; ISD = Install security devices; Ed. = Education; CA = Citizen's awareness; CPTED = Crime Prevention through Environmental Design; SC = Social change; PS = Political solutions; C = Community; R/Ind. = Recreation industry; V = Visitor; B = Businesses; S = State; Lo = Local; In. = Information; P/PR = Publicity/public relations.

demand ranged from *short* (lasting a few weeks) to *medium* (2-4 months), *long* (more than one season), and *indefinite*. The effect of crime and violence on recreation demand, for the most part, was of short duration. Respondents said threats to USFS personnel and homeless people taking up residency in the forest had a longer lasting effect (2-4 months), and the effects on recreation demand of illegal acts committed by members of property rights groups and the dumping of household as well as chemical waste were persistent.

Prevention Methods and Parties Responsible for Prevention

There were several prevention methods that respondents could select: legislation, enforcement, safety and security training for employees, installation of security devices, visitor education, citizen's awareness, Crime Prevention through Environmental Design (CPTED), social change, and political solutions. Respondents relied on a combination of crime-prevention methods. Those used with the greatest frequency were enforcement of rules and regulations and safety and security training for USFS personnel, followed by citizen's awareness and visitor education. Installing security devices, relying on social change (defined by respondents as avoidance), and using CPTED were relied on infrequently. In the study area, CPTED efforts were confined to gated access. There were several "parties responsible for prevention" that respondents could choose: the USFS, community members, the recreation industry, visitors, businesses, the state, or local entities. Respondents were consistent in the belief that the USFS, the state, and local entities were responsible for crime prevention.

Recovery Methods and Parties Responsible for Recovery

There were two recovery methods: information dissemination and publicity/public relations. Information dissemination could be conducted by visitors, citizens, or employees. Respondents tied recovery methods—where they felt it was applicable—to the dissemination of information and, less frequently, to publicity/public-relations efforts. There were several parties responsible for recovery to choose from: the USFS, the state, local entities, the recreation industry, businesses, and community members. Respondents held the USFS responsible for recovery more often than state and local entities and, rarely, relied on businesses or the community.

DISCUSSION

A key difference in our approach to examine the crime/violence phenomenon in U.S. National Forest recreation settings was to anchor the crime matrix with crime- and violence-activity categories. Adapting a tourism crime typology to a recreation setting led to several discoveries, and we concluded after field-testing that additional modifications were needed (Table 4). Several recommendations are presented, derived from this first run of the crime typology in an outdoor recreation setting.

TABLE 4
A CRIME TYPOLOGY FOR
OUTDOOR RECREATION SETTINGS

1. Nature of criminal or violent act
Motive
Economic
Social
Political
Personal
Other
Motive unknown
Victim
Residents
Political figures
Visitors
Recreation agency or personnel (FS)
Businesses (all types)
Other
Location
Started on-site
Started off-site
Severity
Threats
Loss of property (\$\$)
Bodily harm
Loss of life
Mass destruction of life or property (\$\$\$)
Frequency
[Open ended]
Type
Criminal
Civil or political unrest
Riots
Terrorism
Perpetrator
[Open ended or checklist provided]
2. Effects on recreation demand
Quality of experience
No effect
Slight negative effect
Significant negative effect
Intensity
No effect
Slight decrease
Significant decrease
Cessation
Expanse (geographic area affected)
Local
Regional
National
Duration
[Open ended]
3. Prevention methods
Legislation
Enforcement
Safety and security training for employees
Installation of security devices
Visitor education
Citizen's awareness
CPTED
Social change
Political solutions
4. Parties that implemented prevention methods
Recreation agency (FS)
Community

(continued)

TABLE 4 (continued)

Media
Businesses (all types)
Visitors
State
Local
5. Recovery methods
What is being recovered?
Recreation visits
Recreation facility
Other property
Costs or damages
Information dissemination
Visitors
Citizens
Employees
Publicity and public relations
Reward
6. Parties responsible for recovery
Recreation agency (FS)
State
Local
Businesses (all types)
Community

Source: Modified from Pizam (1999).

Note: CPTED = Crime Prevention through Environmental Design; FS = Forest Service.

Issues with Adapting the Crime Typology

In describing the nature of the criminal act, Pizam (1999) did not include examples where there is no apparent motive or, as one respondent remarked, where mental illness might be the only defensible motive for the act. Many survey instruments include a useful "other" category, which would enable respondents to use their own words to ascribe motive. We also recommend adding *no clear motive* to avoid any confusion with *personal*, which Pizam defined as crime motivated by jealousy or revenge. Respondents noted that it was not always easy to discern a motive when no perpetrator was apprehended.

Despite the improbability that a criminal target in U.S. National Forests might be a famous personality, we left it in as a "victim" attribute in the final matrix; it could happen. More important, questions raised by respondents in the course of this investigation led us to the likelihood of other inclusions. These other victims might be businesses, the USFS itself, and American taxpayers. There was also some discussion about victimless crimes and how we might account for the extant and unknown victims of crime.

When considering the "severity" of criminal and violent acts, we need to acknowledge the psychological trauma that victims suffer. In fact, it seems reasonable to add *threats* here instead of listing it across the top of the instrument as we did. A further difficulty in determining the severity of the crime is how to determine property costs when dealing with resources (e.g., the value of a wildlife tree).

Pizam's (1999) "frequency" attribute fails to adequately capture the period of time during which crimes occur, and it does not distinguish between a one-time occurrence and a persistent crime. For example, some respondents noted

crimes that occurred 3 to 12 times in a year, which fits somewhere between *occasionally* and *constantly*. Using an open-ended response category to record the frequency of criminal or violent acts would alleviate this problem and also allow researchers to collapse the results into equal interval time periods. Indeed, Pizam and Fleischer (2002) found that the frequency of crime, not its level of severity, was the most important factor affecting travel decisions.

As for "type" of crime, *civil or political unrest, riots, and terrorism* were rarely applied. Respondents did not believe that civil unrest was necessarily a crime. In fact, LEOs already make a distinction between *civil* and *criminal* as defined by law. Because "war" is unlikely to occur in U.S. National Forests, we (optimistically) propose that this category be dropped.

We added perpetrators to the instrument to characterize who or what type of group or group member was committing crime. In retrospect, listing members of organized groups (e.g., EarthFirst!, militia/supremacy groups, motorcycle groups, property rights groups, satanic cults, survivalists, white-power groups, and wise-use groups) in this column instead of across the top of the instrument might make more sense.

One of the difficulties in using Pizam's (1999) crime typology was trying to clarify semantic differences in how terms like *demand* are defined. It is not clear how, if at all, it accounts for both expressed and latent demand. Respondents defined *demand* as visitation to the forest, but they told us that even with crimes occurring and even though the "quality of experience is different from demand, people continue to come." So while crime did not appear to affect demand to any great extent according to the respondents, it may affect the quality of the experience.

There was some confusion about the "intensity," "expanse," and "duration" of crime or violence on recreation demand. Some respondents replied that crime had no effect on demand, but then, they tried to contribute responses related to the geographic area affected and the duration of the effect. Respondents were further confused trying to distinguish between the duration of the effect of crime on recreation demand and the duration of the crime. Finally, respondents had trouble estimating the duration of the effect of criminal activity on recreation demand, especially if the crime was ongoing (e.g., the trespassing of undocumented immigrants). As noted above, when time frames are not mutually exclusive for recording the duration of effect on demand, using an open-ended response is a practical alternative, since collapsing the data into equal interval time periods may yield more meaningful results. References to "international" geographic areas affected by crime in U.S. National Forests were deemed unlikely.

Perhaps the most difficult term to clarify was *social change*. Pizam (1999) noted that "introducing social change" was one of a number of preventive crime measures. For our respondents, of all the items on the instrument, this was the one least understood. It was not clear just who (i.e., the perpetrators of the crime, USFS personnel, the visitor) is or should be expected to change or how that might be accomplished.

Who is responsible for crime prevention and who should be responsible are altogether different. The original crime typology is not clear on this point. Respondents felt strongly that the media had an important role to play in crime

prevention, and so, they should be included in the instrument. But it was hard for them to distinguish *recreation industry* (e.g., REI or L. L. Bean) from *recreation businesses* (e.g., local bait shop or local guide service). There were suggestions from respondents that we should consider more aptly renaming this section "Parties that Implemented Prevention Techniques Methods."

Respondents sometimes confused *prevention methods* with *recovery methods*. Knowing what is being recovered (e.g., recreation visits, costs, damages, property) would alleviate much of this confusion. If *recovery* refers to reclaiming the area from criminal elements, the instrument must be more explicit. Respondents recommended adding *reward* since, as one respondent noted, an offer of a reward resulted in the recovery of stolen firewood. Pizam (1999) noted that legislative measures enacted at tourism destinations make crimes against tourists a serious offense and that these legislative measures, in concert with other preventive measures, can reduce crime. Respondents, however, treated legislation interchangeably with regulations, and they relied on political solutions less frequently than on the prevention methods listed above. Respondents sought to work through congressional contacts for their political solutions.

Addressing Pizam's "Propositions"

Pizam's (1999, p. 11) conclusions led him to form the propositions outlined below. Using his proposition statements, we found the following:

1. *The relationship between the motive of the criminal or violent act and the intensity, expanse, and duration of the effect.* Motive does not appear to have any relationship to recreation demand, in part, because it is difficult for respondents to ascribe a motive when no perpetrator can be identified. Even in cases where a motive is clear, such as the politically motivated shooting of USFS personnel, it is difficult to make connections between motive and recreation demand if visitors are unaware of the crime. Pizam (1999), on the other hand, found that political motives have the most effect on tourism demand.
2. *The relationship between the type of victim and the intensity, expanse, and duration of the effect.* Acts against visitors do not appear to have a stronger effect on recreation demand than those committed against USFS personnel, local residents, or local businesses. This is at odds with what Pizam (1999) found, where acts against tourists have a stronger effect on demand.
3. *The relationship between the location of the act and the intensity, expanse, and duration of the effect.* There were only two location choices: on-site and off-site. Acts occurring solely on-site have no effect on recreation demand. Pizam (1999), on the other hand, found that for less severe criminal acts, on-site crime had a greater effect on tourism demand.
4. *The relationship between the severity of the act and the intensity, expanse, and duration of the effect.* Loss of life or property has a slight effect on recreation demand for a short duration. Pizam (1999) found that mass destruction of life and property had the strongest effect on tourism demand, followed by loss of life and

bodily harm. But acts that resulted only in loss of property had the lowest effects on tourism demand.

5. *The relationship between the frequency of the act and the intensity, expanse, and duration of the effect.* Acts occurring more frequently do not necessarily have more effect on recreation demand. Pizam, however, found a linkage between frequency and tourism demand; that is, criminal acts that occurred with more frequency had more "intense, widespread, and lengthy effect on tourism demand" (Pizam 1999, p. 11).
6. *The relationship between the type of act and the intensity, expanse, and duration of the effect.* Arson, dumped household waste or chemicals, homeless people taking up residency in the forest, illegal acts of satanic-cult members, and criminal activities of property rights groups have a slight effect on recreation demand for a short period of time. The effect of domestic violence, theft, gang activity, indiscriminate shooting, criminal property damage, or threat of property damage is short (a few weeks) and has no effect on recreation demand. And while the effects on recreation demand of illegal acts committed by members of property rights groups and the dumping of household as well as chemical waste were persistent, none resulted in more than a slight decrease in recreation demand. Pizam (1999) found that war, mass terrorism, riots, and political or civil unrest had strong effects on tourism demand.
7. *Parties responsible for prevention.* The combination of USFS and state and local LEOs is most effective when it comes to arson, gang violence, property and personnel threats, marijuana cultivation, methamphetamine lab/manufacture, and criminal activities of satanic cults, property rights groups, and undocumented immigrants. In the cases of theft, criminal property damage, and dumped household waste or chemicals, they are further assisted by a combination of business members, recreation-industry members, visitors, and the community at large. Pizam (1999) also concluded that for the most part, a combination of law enforcement efforts was most effective in preventing criminal acts.
8. *Parties responsible for recovery.* The USFS is almost solely responsible for recovery, with some help from state and local entities. Pizam (1999) found that governments, in partnership with tourism-industry officials and local community members, were most successful in tourism recovery efforts.
9. *Recovery methods.* Information and, to a lesser extent, publicity/public relations are effective recovery methods in the recreation arena. While Pizam (1999) did not find public relations to be very effective as a tourism recovery method, he did note the success of tourist education and employee training.

Some of the differences between our findings and those of Pizam (1999) can be explained by differences in scale. That is, we worked with respondents in a specific U.S. National Forest, while Pizam took a more broad-based approach to the impact of tourism crime. Pizam included cases of war, mass terrorism, and other mass acts of violence. There is no comparator in the USFS system. And Pizam

omitted smaller, isolated acts (e.g., methamphetamine lab/manufacture, assaults on personnel) that are becoming increasingly commonplace in U.S. National Forests and other federal recreation areas (Gable 2003; National Park Service 2002; Stannard 2003; Vanderpool 2002).

In terms of the intensity, expanse, and duration of the effect of criminal acts on recreation demand, our results differed from Pizam's (1999) findings for acts against visitors, on-site acts, and acts occurring with greater frequency. The differences can be partially explained by differences in scale, differences in how information about crime is disseminated to the visiting public, or as previously noted, differences in how respondents operationalized the terms.

Some types of crime are relatively pervasive in urban-proximate, or urban-interface, forests. The USFS defines urban forests as wildland within an hour's drive of a million or more people. It may be that urban residents become accustomed to crime (e.g., gang violence), and because they have preexisting expectations about criminal behavior, they are not as affected by crime as other visitors might be (Chavez and Tynon 2000). This could be why respondents see negligible, short-term effects on recreation demand for certain crimes or violence. If the crime typology is to have meaningful explanatory value for tourism or recreation demand, it needs to account for contributing factors.

In thinking about successfully mitigating crime, responses must be appropriate to the setting. For example, while CPTED strategies that work in urban parks (Michael and Hull 1994) may hold some promise for managers of larger federal estate lands, CPTED efforts in the study area were confined to gated access.

Establishing empirical substantiation for how much crime is happening in U.S. National Forests remains to be done. The perceptions of seasoned USFS LEOs are relied on when crime statistics are not obtainable. To take better advantage of LEOs' institutional memory, we recommend changing response categories from close ended to open ended for measuring crime frequency and duration of crime or violence effects on recreation demand. Intensity measures can likewise benefit from mutually exclusive response categories.

Pizam (1999) found that a combination of law enforcement efforts, an informed public, and employee training led to greater success in prevention and recovery. Similarly, Chavez, Tynon, and Knap (2004) found that successful USFS law enforcement efforts included collaboration (within the Forest Service, with other law enforcement agencies, with community and volunteer groups, and with recreation visitors and recreation clubs) and communication (have a communication plan, get the word out to the public, be reliable, and be consistent).

Future Research

The results of this qualitative study are not generalizable. The results are derived from the first field-test of a tourism crime typology conducted in a U.S. National Forest recreation setting. But investigations such as this are a useful first step. We encourage others to continue to evaluate the

efficacy of this and other models of the crime/violence phenomenon in tourism and outdoor recreation settings.

REFERENCES

- Bureau of Census (2002). "Statistical Abstract of the U.S., Federal Agencies Employing 500 or More Full-Time Officers with Authority to Carry Firearms and Make Arrests—Number of Officers: 1993 to 2000." *Lexis-Nexis*, http://80-web.lexis-nexis.com.libproxy.lib.csusb.edu/stanunit/document?_m=e2702aa0f7cd.
- Chavez, D. J., and J. F. Tynon (2000). "Triage Law Enforcement: Societal Impacts on National Forests in the West." *Environmental Management*, 26: 403-7.
- Chavez, D. J., J. F. Tynon, and N. Knap (2004). "Reducing Crime and Violence on Public Lands: Case Studies in the USDA Forest Service." *Journal of Park and Recreation Administration*, 22: 22-38.
- Crabtree, B. F., and W. L. Miller (Eds.) (1992). *Doing Qualitative Research*. Newbury Park, CA: Sage.
- Enders, W., T. Sandler, and G. F. Parise (1992). "An Econometric Analysis of the Impact of Terrorism on Tourism." *Kyklos*, 45: 531-54.
- Federal Bureau of Investigation (2002). "Law Enforcement Officers Killed and Assaulted." *Federal Bureau of Investigation Web site*, <http://www.fbi.gov/ucr/ucr.htm>.
- Gable, E. (2003). "PEER Reports Surge in Threats, Violence against Federal Land Managers." In *Land Letter: The Natural Resources Weekly Report*. Washington, DC: E&E Publishing. Available online from http://www.eenews.net/Landletter/searcharchive/test_search-display.cgi?q=crime&file=%2FLandletter%2Fsearcharchive%2FLandletter%2F2003%2FSept4%2F09040307.htm.
- Graziano, A. M., and M. L. Raulin (1989). *Research Methods: A Process of Inquiry*. New York: Harper and Row.
- Gu, Z., and T. L. Martin (1992). "Terrorism, Seasonality, and International Air Tourist Arrivals in Central Florida: An Empirical Analysis." *Journal of Travel and Tourism Marketing*, 1: 3-15.
- Hamel, J., S. Dufour, and D. Fortin (1993). *Case Study Methods*. Newbury Park, CA: Sage.
- Manning, R., J. Bacon, A. Graefe, G. Kyle, R. Lee, and R. Burns (2001). "I Never Hike Alone"—Security on the Appalachian Trail." *Parks and Recreation*, July, pp. 50-56.
- Michael, S. E., and R. B. Hull IV (1994). *Crime and Urban Parks: An Annotated Bibliography*. Pullman, WA: Author.
- National Park Service (2002). "Organ Pipe Cactus National Monument Ranger Shot and Killed." *National Park Service Morning Report*, <http://data2.itc.nps.gov/morningreport/archive/2002/08-10-sat.doc>.
- Pendleton, M. R. (1996). "Crime, Criminals and Guns in Natural Settings: Exploring the Basis for Disarming Federal Rangers." *American Journal of Police*, 15: 3-25.
- (2000). "Leisure, Crime and Cops: Exploring a Paradox of Our Civility." *Journal of Leisure Research*, 32: 111-15.
- Pizam, A. (1999). "A Comprehensive Approach to Classifying Acts of Crime and Violence at Tourism Destinations." *Journal of Travel Research*, 38: 5-12.
- Pizam, A., and A. Fleischer (2002). "Severity versus Frequency of Acts of Terrorism: Which Has a Larger Impact on Tourism Demand?" *Journal of Travel Research*, 40: 337-59.
- Schiebler, S. A., J. C. Crotts, and R. C. Hollinger (1996). "Florida Tourists' Vulnerability to Crime." In *Tourism Crime and International Security Issues*, edited by A. Pizam and Y. Mansfeld. New York: Wiley, pp. 37-50.
- Schneider, I. E., and Y. Iwasaki (2003). "Reflections on Leisure, Stress, and Coping Research." *Leisure Sciences*, 25: 301-5.
- Sonmez, S. F., Y. Apostolopoulos, and P. Tarlow (1999). "Tourism in Crisis: Managing the Effects of Terrorism." *Journal of Travel Research*, 38: 13-18.
- Stainback, S., and W. Stainback (1988). *Understanding and Conducting Qualitative Research*. Dubuque, IA: Kendall/Hunt.
- Stannard, M. B. (2003). "Worry in the Woods: Rangers' Ranks Thin. Opium Field Found despite Fewer Patrols in National Forests." *San Francisco Chronicle*, <http://www.sfgate.com/cgi-bin/article.cgi?f=/chronicle/archive/2003/07/08/MN213724.DTL&type=news>.
- Tynon, J. F., D. J. Chavez, and C. Kakoyannis (2001). "If You Go Down to the Woods Today, You're Sure of a Big Surprise: It's No Teddy Bear's Picnic." *Women in Natural Resources*, 22: 6-17.
- Vanderpool, T. (2002). "Parks under Siege." *National Parks*, November/December, pp. 23-27.
- Yin, R. K. (1993). *Applications of Case Study Research*. Newbury Park, CA: Sage.