

## ABSTRACT

Title of Document: THE CRIMINAL CONDUCT OF RADICAL ENVIRONMENTAL AND ANIMAL RIGHTS GROUPS: A RATIONAL CHOICE PERSPECTIVE

Jennifer Varriale Carson, Doctor of Philosophy, 2010

Directed By: Professor Gary LaFree, Department of Criminology and Criminal Justice

In this dissertation, I examine whether members of radical environmental and animal rights groups are deterred by legal sanctions, morality, both, or neither. From a rational choice framework, I hypothesize that members of these groups weigh costs and benefits and act based on expected utility. I measure an increase in costs through three federal sentencing acts targeted at reducing the criminal behavior of these groups and hypothesize that this legislation decreased the total, serious, and ideologically-specific activity of extremists. I also contend that two terrorist events, the nearly fatal tree-spiking of George Alexander and the assassination of Hiram Kitchen, also increased the costs of criminal conduct for members of radical eco-groups. I evaluate interviews with twenty-five activists and analyze a database of 1056 incidents through both time-series and series hazard modeling. The interviews yield support for the rational choice perspective, particularly in regards to micro-level

considerations of legal sanctions and morality. My quantitative findings indicate that the legislation was influential, albeit varying in direction by the method employed. Specifically, the time-series models yield significant increases in the frequency of criminal conduct after the legislation, while the series hazard analyses demonstrate a decrease in the hazard of an attack. I also find that the two major terrorist events did not significantly impact the criminal conduct of these groups. I conclude that members of radical environmental and animal rights groups are rational actors whom consider the moral evaluation of a given act and are susceptible to an increase in costs as measured through legislative efforts, but not as operationalized as a response to high profile attacks.

THE CRIMINAL CONDUCT OF RADICAL ENVIRONMENTAL AND ANIMAL  
RIGHTS GROUPS: A RATIONAL CHOICE PERSPECTIVE ON MORALITY

By

Jennifer Varriale Carson

Dissertation submitted to the Faculty of the Graduate School of the  
University of Maryland, College Park, in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
2010

Advisory Committee:  
Professor Gary LaFree, Chair  
Professor Laura Dugan  
Professor Kurt Finsterbusch  
Professor Jean McGloin  
Professor Raymond Paternoster

© Copyright by  
Jennifer Varriale Carson  
2010

## Dedication

*To my husband, Chad, for unselfishly giving of yourself for the past six years. Thank you for pushing me forward all the times I felt like going back. For believing in this dream, even when I myself doubted it at times. I am so proud to have both of our names on this as I can think of no better tribute.*

## Acknowledgements

Support for this research was provided by Grant N00140510629 from the Department of Homeland Security through the National Consortium for the Study of Terrorism and Responses to Terrorism. Any opinions or conclusions are those of the authors and do not necessarily reflect the views of the Department of Homeland Security.

Thank you to my family and friends for their support over the years; my brother, Dan, for being on the front lines and sharing his wisdom; my sister, Laura, for always listening, my mother, Marie, for paving the way for women in science, the parents I gained through marriage, Terry and Renee, for their perpetual kindness, and all the friends who have given this experience, at the very least, a sense of humor, particularly Jessica Stroop, Michelle Hart, Tina Ford and Jolene LuShine. I would also like to acknowledge the students that gave of their time and energy so that these data could exist, especially Kyle Saud and Katrina Rudyj, whom I know have very bright futures ahead.

## Table of Contents

Dedication.....	ii
Acknowledgements .....	iii
List of Tables .....	vi
List of Figures.....	vii
Chapter 1: Introduction.....	1
Chapter 2: Literature Review and Theoretical Conceptualization .....	17
<u>Eco-terrorism and Ecotage: Misnomers</u> .....	17
<u>Philosophical Underpinnings</u> .....	22
<u>Environmental and Animal Rights Extremist Groups</u> .....	25
<u>Targets and Tactics</u> .....	29
<u>Rational Choice and Crime</u> .....	35
<u>Individual Differences in the Perceptual Deterrence</u> .....	37
<u>Rational Choice and Terrorism</u> .....	40
<u>Countermeasures and Radical Environmental and Animal Rights Groups</u> .....	47
The Anti-Drug Abuse Act of 1988 .....	49
The Animal Enterprise Protection Act of 1992 .....	49
The Animal Enterprise Terrorism Act of 2006 .....	50
<u>Morality and Terrorism</u> .....	52
<u>Summary</u> .....	55
Chapter 3: The Current Study.....	57
<u>Data</u> .....	58
Interview Data .....	58
Eco-Incidents Database .....	62
Global Terrorism Database.....	62
Foundation for Biomedical Research .....	63
Supplemental Chronologies.....	65
<u>Analyses and Variables</u> .....	69
Question 1: Are those who are motivated by an environmental and/or animal rights ideology sensitive to considerations of legal sanctions and moral evaluations in their cost-benefit analyses? .....	70
Question 2: How effective has recent U.S. federal legislation been in decreasing the criminal conduct of members of radical environmental and animal rights groups?.....	71
Question 3: Are members of radical environmental and animal rights groups deterred by an increase in costs as measured by high profile terrorist attacks? ..	82
<u>Summary</u> .....	85
<u>Legal Sanctions</u> .....	86
Chapter 5: Legal Sanction Results.....	92
<u>Trends over Time</u> .....	92
<u>Time-Series Results</u> .....	94
<u>Series Hazard Results</u> .....	96
<u>Summary</u> .....	97
Chapter 6: Terrorist Attack Results .....	99

<u>Trends over Time</u> .....	99
<u>Time-Series Results</u> .....	100
<u>Series Hazard Results</u> .....	102
<u>Summary</u> .....	102
Chapter 7: Discussion and Conclusions .....	104
<u>Summary of Research Findings</u> .....	106
<u>Discussion</u> .....	111
<u>Limitations and Suggestions for Future Research</u> .....	115
<u>Conclusion</u> .....	117
Why is this research being done? .....	156
Bibliography .....	165



## List of Tables

Table 3.1, List of Alternative Chronologies.....	126
Table 3.2, General Descriptive Statistics for EID.....	127
Table 3.3, Descriptive Statistics for All Incidents.....	128
Table 3.4, Descriptive Statistics for Terrorist Incidents.....	129
Table 3.5, Descriptive Statistics for Damage Incidents.....	130
Table 5.1, Model of All Incidents by Quarter.....	131
Table 5.2, Model of Terrorist Incidents by Quarter.....	132
Table 5.3, Model of Damage Incidents by Quarter.....	133
Table 5.4, Model of Animal-Only Incidents by Quarter.....	134
Table 5.5, Model of Environment-Only Incidents by Quarter.....	135
Table 5.6, Model of All Incidents by Month.....	136
Table 5.7, Model of Terrorist Incidents by Month.....	137
Table 5.8, Model of Damage Incidents by Month.....	138
Table 5.9, Model of Animal-Only Incidents by Month.....	139
Table 5.10, Model of Environment-Only Incidents by Month.....	140
Table 5.11, Hazard Ratios and Standard Errors for Legal Series Hazard Model...	141
Table 6.1, Model of All Incidents by Quarter.....	142
Table 6.2, Model of Terrorist Incidents by Quarter.....	143
Table 6.3, Model of Damage Incidents by Quarter.....	144
Table 6.4, Model of Animal-Only Incidents by Quarter.....	145
Table 6.5, Model of Environment-Only Incidents by Quarter.....	146
Table 6.6, Model of All Incidents by Month.....	147
Table 6.7, Model of Terrorist Incidents by Month.....	148
Table 6.8, Model of Damage Incidents by Month.....	149
Table 6.9, Model of Animal-Only Incidents by Month.....	150
Table 6.10, Model of Environment-Only Incidents by Month.....	151
Table 6.11, Hazard Ratios and Standard Errors for Morality Series Hazard Model.	152
Table 6.12, Hazard Ratios and Standard Errors for Full Series Hazard Model.....	153

## List of Figures

Figure 5.1, Radical Eco-Group Attacks with Legal Interventions.....	118
Figure 5.2, Radical Eco-Group Terrorist Attacks with Legal Interventions.....	119
Figure 5.3, Radical Eco-Group Damage Attacks with Legal Interventions.....	120
Figure 5.4, Radical Eco-Group Attacks with Legal Interventions by Ideology.....	121
Figure 6.1, Radical Eco-Group Attacks with Terrorist Events.....	122
Figure 6.2, Radical Eco-Group Terrorist Attacks with Terrorist Events.....	123
Figure 6.3, Radical Eco-Group Damage Attacks with Terrorist Events.....	124
Figure 6.4, Radical Eco-Group Attacks with Terrorist Events by Ideology.....	125

## Chapter 1: Introduction

*One of today's most serious domestic terrorism threats come from special interest extremist movements such as the Animal Liberation Front, the Earth Liberation Front, and the Stop Huntingdon Animal Cruelty campaign (John Lewis, Deputy Assistant Director of the FBI, 2005, Senate Committee on Environment and Public Works).*

Radical environmental and animal rights groups have been deemed a significant terrorist threat by both the law enforcement and scholarly communities alike. In his 2002 testimony before the House Subcommittee on Forests and Forest Health, James F. Jarboe, the Domestic Terrorism Section Chief of the FBI, maintained that, "ALF/ELF (Animal Liberation Front/Environmental Liberation Front) have committed more than 600 criminal acts in the United States since 1996, resulting in damages in excess of 43 million dollars." In 2006, Donald Liddick, the author of *Ecoterrorism*, argued that, "the growth and severity of so-called eco-terror and animal rights criminality from the 1970s to the present day is noticeable and significant" (p.1). A recent survey conducted by Simone and colleagues (2008) found that 60% of state police agencies reported that these groups represented a substantial hazard to the safety of their citizens.

Perceptions of these groups as a top domestic terrorist threat have prompted the U.S. government to respond through legislation, which has increased the punishments for various eco-related offenses. These types of countermeasures are based on ideas as old as punishment itself; the premise that severe sanctions should decrease criminal conduct by increasing the costs as weighed in rational decision-making. However, it is also possible that members of these groups are not susceptible

to severe sanctions because they hold strong moral convictions based on philosophies that many ascribe to; namely, deep ecology and biocentrism. In other words, an activist's moral evaluation of a criminal act is independent of and conditions the impact of legal sanctions. Recent theoretical development suggests that environmental context affects these moral evaluations (Bouhana and Wikstrom, 2008); with other research indicating that high profile attacks can change such an environment toward the immoral side of the continuum (Wheatley and McCauley, 2008; Dugan et al., 2008). This multiplicative explanation for motivation prompts the question, *Are members of radical environmental and animal rights groups deterred by legal sanctions, morality, both, or neither?* Both of these explanations for deterrence remain untested among this population, along with the larger question of whether members of these groups have been deterred at all.

#### *The 'Threat' of Radical Environment and Animal Rights Groups*

The illegal activities of radical environmental and animal rights groups have received a considerable amount of attention from federal law enforcement and Congress since September 11<sup>th</sup> and the subsequent "war on terror." In 2006, FBI Director Robert S. Mueller stated that, "Terrorism is terrorism-no matter the motive. The FBI is committed to protecting Americans from all crime and all terrorism, including acts of domestic terrorism on behalf of animal rights or the environment." Director Mueller most recently noted that, "Animal rights extremism and eco-terrorism continue to pose a threat. There's a clear difference between constitutionally protected advocacy-which is the right of all Americans-and violent criminal activity" (U.S. Congress. Senate. Select Committee on Intelligence). The

2009 addition of Daniel Andreas, an animal rights activist suspected of two nonlethal bombings, to the FBI's "Most Wanted Terrorists List" demonstrates a clear focus on this particular criminal offense (Friden, 2009).

Although considerably less likely to be alarmists about the matter, most scholars concede that members of radical eco-groups pose *some* sort of hazard. In 1996, Eagan felt that this activity had already peaked some ten years earlier but cautioned that, "the Clinton administration's attempts to develop a comprehensive timber plan could spark a new wave of violence in the forests of America" (p. 14). Ackerman (2003), in a thoughtful qualitative risk assessment of ELF, argued that, "based on its current activities, it seems something of a mischaracterization to label (it) as one of the most serious domestic threats in the United States. However, adding dynamics to the assessment signals that the threat of large-scale (and even CBRN) attacks by the ELF is growing and this may eventually rise to the point where the ELF poses a high level threat" (p. 162). Even Taylor (2003), who disagrees with Ackerman's (2003) conclusions, contends that, "raising such questions...does not mean that there is not potential for violence in these groups" (p. 179).

#### *Empirical and Theoretical Attention*

Overall, there is a lack of empirical research on the aforementioned claims regarding the criminal activities of environmental and animal rights extremists. Two exceptions are a 1993 report to Congress conducted jointly by the Department of Justice and Department of Agriculture on the activities of groups that target animal enterprises and a 2008 report authored by the Department of Homeland Security. These reports, while valuable descriptive tools, lack appropriate statistical analysis

and are unclear about their sources of information. Another exception is the recent empirical contribution by Smith and colleagues (2009), which established how quickly planned and how close targets were to offenders' primary residences. However, other than documenting the 111 events that members of radical eco-groups were responsible for based on federal sentencing data, Smith et al.'s (2009) analysis is outside the scope of this investigation due to its primary focus on pre-incident behaviors.

There also seems to be very little in the way of theoretical conceptualization focused on explaining the motivations of environmental and animal rights extremists. Liddick's (2006) book argues for the role of the techniques of neutralization in relation to the survey responses of activists. In addition, Smith and colleagues' (2009) recent contribution highlights the routine activities of members of radical eco-groups in pre-incident behaviors. While both of these works are important in their own right, they do not explicitly include what is likely one of the most relevant of criminological theories in explaining the actions of environmental and animal rights extremists: the rational choice perspective, and specifically, deterrence theory.

#### *A Theory that Fits*

The rational choice perspective and its theoretical kin deterrence theory enjoy a rich history with origins in the classical school of thought. Prior to the 1600s, crime was considered to be a sin; accordingly, punishment was aimed at the crime and the sin. Hobbes, one of the first philosophers to comprehensively develop the concept of the rational actor, argued for the importance of the social contract; a tacit agreement where every individual gives up a piece of their freedom for the greater good of a

peaceful society. In the 1700s, great thinkers like Cesare Beccaria and Jeremy Bentham viewed action through the utilitarian principle; that is, man behaves in order to maximize pleasure and minimize pain and that action should be based on the greater good. These philosophers also set the stage for the view that offenders utilize a cost-benefit analysis, with crime occurring when the potential rewards outweigh the consequences.

This concept, the cost-benefit analysis of offender decision-making, has become the crux of the rational choice perspective (Cornish and Clarke, 1986). Originally based in economics, this perspective argues that people have preferences for outcomes formed from their socialization and/or past experiences. People then act on both their orientation toward the future and on the basis of what they think will happen. Rational choice theorists also contend that individual decision-making is based on “expected utility;” in other words, a crime will be committed if an offender’s perceptions dictate that the benefits of that particular crime outweigh its costs. These decisions are also based on the offense being considered. In other words, a person’s rational choice is crime-specific.

Deterrence theory centers on the idea that an increase in costs, measured through punishment, will influence criminal behavior. Deterrence originally focused on objective measures of the certainty, severity, and celerity of legal sanctions (Gibbs, 1968; Tittle, 1969; Chiricos and Waldo, 1970; Tittle and Rowe, 1974). For example, Tittle (1969) examined the relationship between state-level index crime rates and both certain (incarcerations versus reports to the police) and severe (measured through length of prison sentence and number of crimes punishable by

death) legal sanctions, only to discover support for the former. Tittle (1969) concluded that certain punishments deter crime regardless of the level of severity, but that a state's "normative climate" may also be a factor. In other words, states with certain punishments and low crime rates may be a reflection of an overall intolerance for crime rather than a deterrent effect of such punishments. Latter objective deterrence research has examined certain punishments through policing strategies like mandatory arrest for domestic assault (Sherman and Berk, 1984) and crackdowns (Sherman et al., 1995) yielding mixed results. Other studies have focused on severe punishments such as three strikes laws (Kovandzic et al., 2004) and the death penalty (Cochran and Chamlin, 2000). All in all, objective deterrence research shows some support for the effectiveness of certain punishments on aggregate crime rates, but very little for those punishments that are considered to be severe (Pratt et al., 2006).

In order to tackle causal issues like those addressed by Tittle (1969), researchers began to take into account a person's perceptions of a given punishment (Waldo and Chiricos, 1972; Erickson et al., 1977; Jensen et al., 1978). For example, Jensen and colleagues (1978) discovered a relationship between the perceived risk of punishment and self-reported delinquency in a sample of high school students. Overall, deterrence studies similar to this one have discovered the most support for the perceived certainty of punishment (Erickson et al., 1977; Jensen et al. 1978), but little for either perceived severity (Pratt et al., 2006) or perceived celerity (Nagin and Pogarsky, 2001). Certainty effect sizes also seem to vary by the type of crime examined (Pratt et al., 2006) and research design employed (Nagin, 1998).



Additional work on perceptual deterrence has suggested that individual differences may explain why some people are deterred and others are not (Grasmick and Bursik, 1990; Bachman et al., 1992; Nagin and Paternoster, 1993; Paternoster and Simpson, 1996; Pogarsky, 2002; Nagin and Pogarsky, 2003). This research has established two primary themes regarding individual differences on perceptions of punishment. First, a person's consideration of the certainty and/or severity of a punishment is affected by one's level of self-control; often measured through present-orientation and self-centeredness (Nagin and Paternoster, 1993; Pogarsky, 2002; Nagin and Pogarsky, 2003). That is, those with low levels of self-control are more likely to value immediate rewards (as opposed to long-term costs) as they place little importance on their future (Nagin and Paternoster, 1993). Second, an individual is deterred by their level of internalized morality rather than by their perception of a formal sanction (Grasmick and Bursik, 1990; Bachman et al., 1992; Paternoster and Simpson, 1996). As Bachman and colleagues (1992) note, "persons may refrain from offending not only because they fear the consequences of their action, but because they believe the act to be morally wrong" (p. 346). Therefore, the level of morality a person carries with them also affects their individual cost-benefit analysis of a particular act (Bachman et al., 1992). For example, a highly moral person may not only consider state sanctions when contemplating a certain behavior if they believe the behavior in question to be morally wrong.

*Research Question #1: The Applicability of the Rational Choice Perspective*

Considering that terrorism is a deliberate crime involving some level of planning (LaFree and Ackerman, 2009; Smith et al., 2009) and that terrorists are often

rational actors (Smith et al., 2009), it is not surprising that the rational choice perspective has been successfully applied to this crime (Dugan et al., 2005; LaFree et al. 2009). Given the philosophical underpinnings behind the environmental and animal rights movement, where all life is valued equally and pacifism is embraced, the concept of individual morality (or moral inhibitions) seems especially applicable. Therefore, perhaps it is not solely formal sanctions, but also a high level of individual morality that deters environmental and animal rights activists from committing criminal and terrorist acts.

Thus, it is imperative to first and foremost ascertain whether those specific to an environmental or animal rights ideology operate from within a rational choice framework; decision-making that is marked by weighing costs and benefits and acting based on expected utility. In other words, *are those who are motivated by an environmental and/or animal rights ideology sensitive to considerations of legal sanctions and moral evaluations in their cost-benefit analyses?* To answer this question, I evaluate the responses of twenty-five environmental and animal rights activists from semi-structured interviews. More specifically, I determine how important legal sanctions are in their individual decision-making. Furthermore, I examine my interview data for themes consistent with the concept of moral inhibitions. In the end, the interviews supported my first hypothesis; namely, the rational choice perspective can be applied to environmental and animal rights activists in that my sample weighed costs in the form of legal sanctions and was affected by the moral evaluations of a given act when deciding on various behavioral options.

## *Research Question #2: Legal Sanctions*

Recent efforts in the field of criminology have been aimed at evaluating certain and severe countermeasures like that of metal detectors on the prevalence of aerial hijackings (Dugan et al., 2005), military interventions and their influence on terrorism in Northern Ireland (LaFree et al., 2009), and state laws and their effect on abortion clinic victimization (Pridemore and Freilich, 2007). All in all, countermeasure investigations have garnered little support for deterrence theory, although as Lum et al. (2006) caution, this may be due to the relative lack of empirical research focused on evaluating such measures. In fact, I could identify no published literature testing the effectiveness of countermeasures aimed at combating the criminal conduct of members of radical eco-groups. Therefore, my second task (after determining the appropriateness of applying a rational choice framework to members of these groups) is to measure the impact of such countermeasures. In other words, from a rational choice perspective, I examine an increase in costs measured through punishment severity<sup>1</sup> in relation to its potential effects on illegal behavior. Thus, my second research is: *How effective has recent U.S. federal legislation been in decreasing the criminal activities of members of radical environmental and animal rights groups?*

In this research, I concentrate on three important federal sentencing acts. The first is the Anti-Drug Abuse Act of 1988 (ADA). Although initially unrelated to radical eco-groups, this legislation was amended to include a clause criminalizing the use of a “hazardous or injurious device on federal land” in response to a high profile

---

<sup>1</sup> Due to the general length of prosecution involving federal criminals and the overall lack of prosecutions tried under the legislation of interest, neither the celerity nor certainty of these laws can be adequately examined.

incident where a logger was severely injured by a tree-spike (Smith, 2008). The second is the Animal Enterprise Protection Act of 1992 (AEPA), which “increases penalties on a person who ‘intentionally causes physical disruption to the functioning of an animal enterprise by intentionally stealing, damaging, or causing the loss of, any property (including animals or records) used by the animal enterprise, and thereby causes economic damage exceeding \$25,000 to that enterprise, or conspires to’” (Walker, 2007: 104). Finally, I study the effects of the recent adoption of the Animal Enterprise Terrorism Act of 2006 (AETA) into law and its enhanced penalties for “acts disruptive of an ‘animal enterprise’ and leading to a ‘reasonable fear’ on the part of that enterpriser’s owner for their property, including boycotts or other forms of previously lawful protest leading to ‘losses or increased costs’ exceeding \$10,000” (Vanderheiden, 2008: 306).

I assess this research question through the construction and analysis of an incident-level database on the criminal and terrorist activities of members of radical environmental and animal rights groups. This database is, to my knowledge, the most comprehensive collection, to date, of the illegal conduct of environmental and animal rights extremists in the United States. The Eco-Incidents Database (EID) was initially assembled through events in the Global Terrorism Database (LaFree and Dugan, 2007), or the GTD. The GTD contains a range of variables covering both domestic and international terrorist incidents from 1970 through 2007. These data were then supplemented through several open source chronologies, allowing for the ability to analyze both criminal and terrorist acts committed by members of radical eco-groups as the GTD only includes data on the former. To gather information on

non-terrorist crimes, I most heavily relied on the extensive chronology collected by the Foundation for Biomedical Research, although several other open source chronologies were independently examined to ensure a comprehensive set of cases. In all, I collected a total of 1056 unique U.S. incidents committed by members of radical eco-groups from the years 1970 through 2007.

The EID also offers a variety of important variables intrinsic to evaluating the criminal conduct of these groups; namely, for every incident there is information on the time and place, whether the incident was successful, target, attack type, perpetrator, weapon use, damage caused (both physical injury and property destruction), and whether an incident was terrorism. I evaluate all three sentencing acts in regards to trends in total incidents and serious (terrorist and involving damage) incidents perpetrated by environmental and animal rights extremists. I also disaggregate the events by ideology to see if the laws had differing influences on the specific behaviors they were initially intended to legislate. In other words, and despite the possibility of spillover, ADA was specifically written for environmental crimes, while AEPA and AETA are more focused on animal motivated activity. This will also allow me to examine the possibility of substitution effects.

I analyze my second research question through both interrupted time-series and series hazard analyses. Applying two strategies to evaluate these relationships increases the reliability of the results and allows me to explore two separate ways to measure the five outcomes of interest. All in all, I find that the three pieces of legislation produced a significant decrease in the hazard, but an increase in the frequency, of criminal acts committed by environmental and animal rights extremists.

While acknowledging that the two strategies are measuring separate outcomes, given the issues intrinsic to time-series analysis, I put more stock in the conclusion that the legislation decreased activity as hypothesized given the estimates from series hazard models are based on a more refined measure of variability.

*Research Question #3: High Profile Terrorist Events*

Discussions of the moral context have come to the forefront of analyses regarding terrorist decision-making with Bouhana and Wikstrom's (2008) recent application of "situational action" theory. These authors argue that a person's individual morality (values and emotions) and the moral context (rules and enforcement) of the situation influence the chances that they will engage in terrorist acts. In this perspective, "law-breaking occurs when there is a lack of correspondence between the law and the individual's moral values in a given context" (Bouhana and Wikstrom, 2008:6). Bouhana and Wikstrom (2008) maintain that crimes as diverse as suicide terrorism and shoplifting are similar in that they are all governed by individual and contextual moral elements, contingent on a person's moral education.

Recently, Wheatley and McCauley (2008) demonstrated the importance of moral context through a case study of the Luxor massacre, a seemingly "successful" terrorist attack perpetrated by the Islamic Group in Egypt in 1997. This attack was especially brutal and viewed as such by Egyptian citizens and members of the Islamic Group alike, leading to an overall disillusionment with Islamic extremism and greater governmental latitude in counterterrorism efforts. The authors highlight the role of

morality in the decrease in Egyptian terrorism following Luxor arguing that, “a terrorist act seen as immoral has the potential to make all terrorists immoral” (p.24).

Although silent on the role of morality in the desistance of the Armenian Secret Army for the Liberation of Armenia (ASALA) and the Justice Commandos of the Armenian Genocide (JCAG), Dugan and colleagues (2008) provide a similar argument. The authors found that the “immoral” targeting of non-Turkish citizens, highlighted by an especially brutal attack on the Orly airport in Paris, lead to a decrease in ASALA’s support base. Interestingly, this attack also influenced support for terrorism as a whole measured through JCAG’s decline, a group with competing interests to that of ASALA. The researchers contend that, “the most important audience of terrorist activity is therefore not the enemy, but the terrorists’ own sympathizers and supporters” (p. 246).

This research suggests that moral context of the situation is also important to take into consideration. In other words, it is probable that U.S. terrorist incidents have affected the moral landscape in a similar way as the Luxor massacre and the Orly airport incident. In fact, Eidelson and McCauley (2009) discovered a decline in public support for right-wing ideologies after the Oklahoma City bombing. In an analysis of the American National Election Survey, the researchers discovered that a scale composed of item responses that indicated that the “government is out of control” and that “minorities are a threat” peaked right before the bombing and then substantially decreased. The authors conclude that this finding, “is consistent with the view that extremist violence produces a decline in public sympathy for the underlying cause or ideology” (Eidelson and McCauley, 2009: 20).

The two terrorist attacks most likely to have affected the environmental and animal rights movement in a similar way are the Alexander tree-spiking and the Kitchen assassination. The former event involved the severe injury of a logger, George Alexander, which led to a public outcry (both within and outside the environmental movement) against the use of tree-spiking as a tactic. The latter incident refers to the killing of the Dean of the University of Tennessee veterinary school; a killing that was preceded by several threats made by animal rights extremists. Both of these attacks were widely publicized and represent the events most likely to foster an environment where the use of terrorist tactics is seen as immoral.

Therefore, it is possible that the environments after these events were ones where the perceived costs of being associated with terrorism had increased due to a change in the climate. Thus, my third research question is: *Are members of radical environmental and animal rights groups deterred by an increase in costs as measured through high profile terrorist attacks?* I explore this question once again through interrupted time-series and series hazard modeling of the EID in relation to the Alexander tree-spiking (date of May 8, 1987) and Kitchen assassination (date of February 8, 1990). I conclude that, overall, my hypotheses are unsupported in that neither of these events significantly influence the total, serious (terrorist or involving damage), or ideologically-specific conduct perpetrated by members of radical environmental and animal rights groups.

*Summary*



In this dissertation, I set out to evaluate the applicability of the rational choice framework; particularly one that focuses on an increase in costs, to the criminal conduct committed by members of radical environmental and animal rights groups. I achieve this task through (1) an exploration of whether environmental and animal rights activists consider legal sanctions and the moral evaluation of a given act, (2) an analysis of the effectiveness of U.S. federal sentencing acts aimed at addressing criminal conduct and, (3) an evaluation of what role high profile events play in this conduct. My analyses include qualitative interviews with those that ascribe to an environmental and/or animal rights ideology, along with both interrupted time-series and series hazard modeling of the Eco-Incidents Database in relation to three federal sentencing acts and two U.S. terrorist events.

The remainder of this dissertation is organized as follows. In Chapter 2, I (1) clarify the terms eco-terrorism and ecotage and explain why I instead use more neutral terms, (2) discuss the philosophical background of those that adhere to environmental and animal rights principles, (3) describe the most influential of the ecological and animal rights groups in the United States, namely the Environmental Liberation Front, Animal Liberation Front, and Stop Huntingdon Animal Cruelty, with a focus on their structure and important leaders and, (4) examine the targets and tactics that these groups have focused on in the past. Also in Chapter 2, I discuss rational choice, deterrence, and micro and macro-level research on morality in reference to its applicability in explaining crime, terrorism, and both behaviors perpetuated by members of radical eco-groups. In Chapter 3, I describe the data collection process, both quantitative and qualitative, and provide the

operationalization of important variables involved in the analyses. I also review the research questions and related hypotheses and analyses. In Chapter 4, I describe the results for my first research question: *Are those who are motivated by an environmental and/or animal rights ideology sensitive to considerations of legal sanctions and moral evaluations in their cost-benefit analyses?* In Chapter 5, I provide the results for the second research question: *How effective has recent U.S. federal legislation been in decreasing the criminal activities of radical environmental and animal rights groups?* In Chapter 6, I review the results from the third research question: *Are members of radical environmental and animal rights groups deterred by an increase in costs as measured through high profile terrorist attacks?* Finally, in Chapter 7, I summarize my conclusions, comment on study implications and limitations, and provide an outline for a future research agenda.

## Chapter 2: Literature Review and Theoretical Conceptualization

### *Eco-terrorism and Ecotage: Misnomers*

Although eco-terrorism has become part of the American lexicon, the appropriateness of this term has often been criticized. As defined by the FBI, eco-terrorism is, “the use or threatened use of violence of a criminal nature against innocent victims or property by an environmentally orientated sub national group for environmental-political reasons, aimed at an audience beyond the target, and often of a symbolic nature” (U.S. Congress. House. Subcommittee on Forests and Forest Health). However, scholars often criticize this language as both socially constructed and inappropriate due to the contention that environmental and animal rights extremists rarely target humans or utilize forceful means (Vanderheiden, 2005; 2008; Amster, 2006). These proposed distinctions would also separate many of the incidents perpetrated by members of radical eco-groups from the more general definition of terrorism as proposed by LaFree and Ackerman (2009) as, “the threatened or actual use of illegal force, directed against civilian targets, by non state actors, in order to obtain a political goal through fear, coercion or intimidation” (p. 1).

Liddick (2006) argues that because the majority of incidents are minor property damage, “the application of the term *terrorism* does not seem to be warranted” (p.7). Liddick maintains that the real issue is intention: members of radical eco-groups are selective about their targets and those targets do not usually include people. This is in direct contrast to terrorists, who Liddick (2006) argues,

“target people indiscriminately<sup>2</sup>” (p.8). In tackling this definitional issue in his 2005 article, Vanderheiden, who prefers the term ecotage (economic sabotage of inanimate objects thought to be complicit in environmental destruction) contends that the, “destruction of property that merely threatens the further destruction of property, where no people need to fear for their personal safety and no cultural artifact of major significance to people is threatened with obliteration, must be regarded as a categorically distinct act. Conflating it with genuine terrorism unfairly associates those who observe a crucial moral distinction with those who do not<sup>3</sup>” (p. 432). The author cites the evolution of tree-spiking as support; after causing injury to several loggers, one group banned the practice altogether while another urged that spikes be placed high enough that they would not cause additional damage. Although Vanderheiden (2005) cautions against the word terrorism he does not feel that ecotage can be construed as a form of civil disobedience: “several dissimilarities between nonviolent civil disobedience and ecotage suggest that the two tactics may be too disanalogous to rest upon the same moral foundations” (p. 437). Nevertheless, Vanderheiden (2005) contends that ecotage may be considered “political resistance” if the following conditions are met:

- (1) some act is being undertaken which is contrary to both law and justice; (2) state officials charged with enforcing relevant laws are unwilling or unable to do so; (3) serious damage is imminent and, once complete, will be durable and irreversible; (4) legal means were attempted and proved unsuccessful; (5) appeals to the sense of justice of the community have either already failed or would be frustrated by the unresponsive policy making or enforcement processes (p.443).

---

<sup>2</sup> In fact, preliminary analysis of the Eco Incident Database uncovers a minority of incidents that target people (19%).

<sup>3</sup> However, most U.S. terrorist incidents do not involve a fatality. In fact, only 9% of the U.S. incidents in the Global Terrorism Database are associated with a fatality.

Welchman (2001) has also commented on the association between ecotage and civil disobedience. In contrast to Vanderheiden (2005), Welchman contends that ecotage should be considered a form of civil disobedience. The issue, Welchman argues, is the varying definitions of what constitutes such disobedience. As the author states, “according to current definitions of civil disobedience, drawn from the work of John Rawls and Carl Cohen, eco-saboteurs are not civil disobedients because their disobedience is not a form of address and/or does not appeal to the public’s sense of justice or human welfare” (Welchman, 2001: 97). Welchman maintains that an earlier definition of civil disobedience, which was offered by Hugo Bedau in 1961, is more appropriate. This definition, “an illegal act intended directly or indirectly to frustrate laws or legally tolerated practices, within the bounds of civility” (Welchman, 2001:105), is one where acts of ecotage could also be considered as acts of civil disobedience. However, similar to the aforementioned works by Liddick (2006) and Vanderheiden (2005), Welchman (2001) makes a distinction between acts that target people and those that target property:

I suggest, then we must recognize that violence, threats of violence, covert acts of sabotage, blackmail, and even assault are all means by which laws and legal practices might be obstructed. Such acts are not obviously incompatible with maintaining sociability. Direct assaults upon personal security pose perhaps the greatest sociability, so we might argue that both violence and threats against persons should be excluded altogether. But violence against property, whether public or covert, is another matter (p. 105).

Amster (2006) has also added to the debate surrounding the rhetoric of the term eco-terrorism. In fact, Amster (2006) takes considerable issue with this wording and views it as part of a broader political movement: “The implications of all this recent counterterrorist activity, and the selective coding of what constitutes a ‘terrorist

threat' in legislative, intelligence-gathering, and law-enforcement circles, seems clear: it constitutes a campaign to link environmentalism to terrorism. More broadly, it threatens to criminalize dissent altogether" (p. 293). In fact, Amster demonstrates that if terrorism includes the destruction of property, then our founding fathers would fall under this rubric. Amster argues that eco-terrorism may more aptly be applied to those that terrorize the environment; that is, the very targets of these groups. All in all, Amster (2006) maintains, "the general effect of branding someone a terrorist in these times is essentially to forestall any such meaningful discussion, to the detriment to all concerned" (p. 297).

In 2008, Vanderheiden revisited these definitional issues with a similar take on the distinction between activism and terrorism as Amster (2006). Specifically, Vanderheiden (2008) contends that to consider acts committed by environmental and animal rights groups as terrorism is, "to ignore the crucial difference in moral status between persons and inanimate objects, and no defensible account of the wrongness of terrorism could fail to treat these as categorically different acts." (p. 314). In addition, Vanderheiden (2008) feels that the use of certain terminology has not been the result of causal verbiage, but rather a well thought out tactic: "Coined and championed by anti-environmental activists with a keen sense for the propagandistic power of language and fervently received by legislators sympathetic to their deregulatory agenda, the term invites an association between terrorism and radical environmentalism, planting out the spectre of another group of fanatics and mass murders out to destroy 'our' way of life in the public mind" (p. 299). The author goes on to describe how eco-terrorism has only recently been added to the lexicon (per the

Oxford dictionary in 1997) and could not even be considered to be terrorism by the FBI until the expansion of their own definition to acts against inanimate objects as documented in the 2001 PATRIOT act.

Not all scholars feel that the labeling of members of radical environmental and animal rights groups as terrorists is problematic. Perlstein (2003) describes a group of faculty members at Portland State University who sent letters in support of such groups. The author maintains that this encouragement by academics who identify with group members, “supports and reinforces the violent actions of the activists and is reminiscent of the cheering heard in certain parts of the Middle East after 9/11” (p. 171). Perlstein (2003) goes on to state that not considering an environmental and animal rights extremist as terrorists makes them seem as, “pranksters who are striving to keep the Earth ‘safe and healthy’” (p. 171).

This is likely not a debate that will be resolved anytime soon and one that further convolutes the study of members of these groups. However, in keeping with the majority of scholars, I have and will continue to avoid the use of the term eco-terrorism in this dissertation. Nevertheless, the scholarly alternative of ecotage as offered by Vanderheiden (2005) can also be considered as insufficient in that it does not represent all of the behavior perpetrated by these groups. In other words, while there may be debate surrounding the applicability of the word terrorism to incidents involving these groups because of rare participation in events that fit the definition, there is little evidence to suggest that these events *never* occur.

Therefore, both eco-terrorism and ecotage are imperfect terms. Instead, as operationalized through Eagan’s (1996) criteria (a position that will not compromise,

status as a grass roots organization without any clear chain of command or any pay/benefits involved, and time and funds directed toward direct action rather than aimed at lobbying), this behavior is best referred to as the “illegal activities” or the “criminal conduct” of *members of radical environmental and animal rights groups, environmental and animal rights extremists, or members of radical eco-groups*. In addition to being less politically charged, the aforementioned terminology references the full spectrum of criminal behaviors, both terrorist and otherwise, committed by these groups. In the next section, I illustrate the different environmental philosophies that govern the lives of those that do and do not commit such illegal acts. As I will demonstrate, the philosophy most adhered to by activists that of deep ecology and biocentrism, has clear implications for the conceptualization of moral inhibitions.

### *Philosophical Underpinnings*

Many ecological and animal rights activists adhere to the ideas of Arne Naess, a Norwegian philosopher, who coined his environmental perspective as “deep ecology” (Liddick, 2006; Eagan, 1996). The primary tenet of this philosophy is “biocentrism,” or the belief that everything in nature is of equal value. Consequently, biocentrism promotes the protection of not just the living, but also inanimate objects like rocks and rivers. Most troubling about deep ecology is what Eagan (1996) refers to as “restoration ecology... (or) an actual rollback of civilization and the ‘recreation’ of the wilderness” (p. 3). Leader and Probst (2003) describe the intention as, “a restoration to an imagined pristine state, of an environment believe(d) to have been despoiled by the selfish actions of the human race. In practice, this would mean (a) return to pre-industrial, subsistence agricultural communities” (p. 40). This rollback



can also be somewhat disconcerting considering its implications. As Liddick (2006) states, “environmental extremists are invariably shaped by some blend of anarchistic, apocalyptic, millenarian thinking, striving to hasten the downfall of modern civilization so as to realize a better world where man will live in harmony with the natural world” (p.3). Thus, the threat in such a philosophy is that a “world where man will live in harmony with the natural world” (Liddick, 2006:3) could also be construed as a world with fewer people.

Nevertheless, there is a divide between those groups who promote violent action (i.e. Stop Huntingdon Animal Cruelty) and those that do not (i.e. Greenpeace). Furthermore, this divide is independent of a group’s or individual’s acceptance of deep ecology. In other words, many believe in the canons of deep ecology but very few interpret it in such a violent fashion. Rather, it is the philosophy of “green anarchy,” a way of thinking that is more consistent with what Liddick (2006) describes, that seems to more readily advocate violent tactics. Green anarchy is, “a brand of anarchism that opposes modernization and its effect on the natural environment. Some call themselves primitivists, or green anarchists, and contend that humans were better off thousands of years ago, before the advent of farming” ([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). Linked to the green anarchy philosophy is an anti-capitalism sentiment, along with the encouragement of harsher strategies. The Anti-Defamation League (ADL) cites a letter published in *Green Anarchy*, which reads, “when someone picks up a bomb instead of a pen, is when my spirits really soar” ([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). As Ackerman

(2003) describes, “the anarchist influence has the capacity to covert those initially concerned primarily for the environment into social revolutionaries acting outside the legal system. It also broadens the range of targets and grievances, and makes any accommodation with authorities far more difficult” (p. 147).

Taylor (2003), however, cautions that green anarchy should be considered a distinct ideology to what groups like ALF and ELF ascribe to: “The Earth Liberation Front resists environmental despoilers, the Animal Liberation Front confronts those who they believe abuse sentient creatures, and anarchists battle industrial civilization, both its rulers, infrastructure and symbols” (p. 176). Although there is much overlap, Taylor (2003) argues that these characteristics demonstrate clear intellectual boundaries. In response, Ackerman (2003) has contended that, “the fact remains that there are several indicators of relational bridges between these movements across which fragments of ideology, tactics, and occasionally cooperation can flow...so while these groups may not constitute a single entity, they are at the very least close cousins” (p. 188).

Although there is much debate surrounding the possible distinctions between the aforementioned philosophies, there is considerably less concerning which radical eco-groups have been the most influential, and perhaps destructive, in the United States. In the next section I seek to describe the formation of these groups, specifically, the Environmental Liberation Front, the Animal Liberation Front, and Stop Huntingdon Animal Cruelty, along with the important people involved in these organizations.

### Environmental and Animal Rights Extremist Groups

As previously noted, Eagan (1996) argues that there are three main elements that all environmental and animal rights groups share: an uncompromising position, status as a grass roots organization without any clear chain of command or any pay/benefits involved, and time and funds directed toward direct action rather than aimed at lobbying. Perhaps two of the most well known radical eco-groups are that of the Animal Liberation Front (ALF) and the Environmental Liberation Front (ELF). Both were started in the United Kingdom, with the former established in 1976 and the latter a splinter of the radical group Earth First! nearly twenty years later (Liddick, 2006).

ALF's primary objective is, "to effectively allocate resources (time and money) to end the 'property status of nonhuman animals. To abolish institutionalized animal exploitation because it assumes that animals are property'" ([http://www.animalliberationfront.com/ALFront/mission\\_statement.htm](http://www.animalliberationfront.com/ALFront/mission_statement.htm), accessed October 16, 2007). This group is influenced by a number of philosophers, most notably Peter Singer and his work advocating for the equality of animals ([www.adl.org/learn/ext\\_us/Extoterrorism](http://www.adl.org/learn/ext_us/Extoterrorism), Accessed March 4, 2009). ALF encourages direct action in order to accomplish this mission, primarily through the rescue of animals and/or property damage to what they call "animal exploiters." Thus, from a rational choice perspective, benefits to these groups are anything that would assist animals. According to the Anti-Defamation League (ADL), the earliest incident attributed to ALF within the United States was a break-in at the New York University Medical School and the release of five animals in 1979.

ELF has very similar ideals to that of ALF, also promoting the destruction of the assets of those, in their minds, who threaten the environment (Liddick, 2006). ELF seeks to bring publicity to acts of environmental destruction through their various tactics; an important benefit intrinsic to their rational decision-making. Perhaps most influential to the development of ELF was Edward Abbey's book, *Monkeywrenching*, which has become a guidebook of sorts to environmental and animal rights extremists through its description of four individuals who cause damage to a number of targets in the Southwest (Eagan, 1996). In fact, Dave Foreman, the founder of the Earth First!, was highly affected by Abbey's book; perhaps best demonstrated through Abbey's foreword in Foreman's own narrative, *Ecodefense: A Field Guide to Monkeywrenching*. The difference between the originator group, Earth First!!, and its splinter ELF, is more of a focus on direct action. There are also distinctions between ELF and ALF, as previously noted regarding ideology (Taylor, 2003). As Ackerman (2003) summarizes, "while animal liberationists decry the treatment of individual animals and restrict their concern to sentient beings, radical environmentalists display a more global, macro-level approach and are concerned with entire species and whole ecosystems" (p. 164).

The most recent addition to the environmental and animal rights extremist scene is the group, Stop Huntingdon Animal Cruelty, or SHAC ([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). SHAC was created in 1998 in the United Kingdom after a documentary aired on Huntingdon Life Sciences (HLS), a research organization, demonstrating the mistreatment of animals under its supervision. Once the company moved its headquarters to New Jersey,

SHAC became active in the United States through a series of incidents. SHAC has also been known to target businesses or organizations that support HLS; perhaps most notorious was the campaign of harassment directed at Stephens Inc., the main financial backer of Huntingdon Life Sciences (HLS). After a series of protests including a website entitled “StephensKills,” the financial organization sold its shares of HLS. This was perceived to be a major victory for SHAC and perhaps affected subsequent cost-benefit analyses for both this group and others. SHAC was also responsible for two significant attacks involving the bombing of HLS supporters in California. As Ackerman (2003) notes, “SHAC continues to use extremely aggressive tactics including death threats, firebombings, and violent assaults against people connected to Huntingdon Life Sciences” (p. 156).

The aforementioned groups are prime examples of organizations that lack a true hierarchical structure; there is often no one central leader and the groups are predominantly composed of individuals or clusters of individuals who work separately<sup>4</sup>. As Leader and Probst (2003) describe, “the basic principle of leaderless resistance is that there is no centralized authority or chain-of-command. The various cells are linked by a shared ideology but otherwise are autonomous, for the most part unconnected and unknown to each other” (p. 39). This lone wolf style does allow for the members of these groups to maintain a certain amount of anonymity and thus, avoid detection; Ackerman (2003) points to the handful of arrests and convictions.

And as the ADL describes: “Influenced to varying degrees by their English

---

<sup>4</sup> The exception is the “Family,” an organized group of ALF and ELF members responsible for the largest federal case involving these groups. As Smith and colleagues (2009) note, “adopting a more ‘cellular model’ in lieu of the more prominent ‘uncoordinated violence’ advocated by environmental extremist leaders, the Family engaged in training classes to learn sabotage techniques, encryption software, and security measures to minimize infiltration by law enforcement” (p. 85).

predecessors and by segments of the anarchist movement, (perpetrators) operate through autonomous cells, are unconstrained by geographic boundaries and very difficult to infiltrate and stop...for example, an activist can become a member of the movement simply by carrying out an illegal action on its behalf”

([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). The lack of organization that characterizes these groups can also work the other way. As Ackerman (2003) notes regarding ELF, “the lack of hierarchy means that there is no opportunity for a palliating influence on the decisions of more extreme ELF cells” (p.148).

Despite this lack of hierarchy, certain activists do serve as figureheads for radical environmental and animal rights groups. Rod Coronado, responsible for the firebombing of a research center at Michigan State University that caused an estimated 3.5 million dollars in damage, is one such figurehead for ALF. As the ADL cites, “these representatives perform the essential tasks of publicizing communiqués from anonymous cells claiming responsibility for illegal actions and recruiting” ([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). Other important activists serving similar roles in ALF were Katie Fedor and more recently, David Barbarash, who resigned in 2002 after rising law enforcement pressure ([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). In regards to ELF, Craig Rosebraugh has been perhaps the most vocal spokesman. Rosebraugh has worked to link ELF to other social justice issues and has attempted to introduce an anti-government ideology into the eco-lexicon. After mounting strain from the FBI and other law enforcement, Rosebraugh and colleague Leslie Pickering resigned their

respective roles in the group in 2001. Since then, Rosebraugh has been linked to additional criminal incidents and continues to promote a larger anti-government message through his new effort with Pickering, “Arissa.” SHAC’s primary U.S. spokesman has been Kevin Kjonaas, a former ALF member, who became involved with the movement while studying political science at the University of Minnesota ([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). Kjonaas has been connected to the SHAC-7 incidents, a series of stalking and intimidation tactics aimed at HLS employees and its shareholders. Despite raids by federal law enforcement and an arrest related to these incidents, Kjonaas remains active in SHAC.

It appears that organizations like ELF, ALF, and SHAC play a significant role in the criminal activities perpetrated by environmental and animal rights extremists in the United States. In the next section, I clarify who these extremists have targeted and what strategies they have utilized to push forward their agendas.

### *Targets and Tactics*

There is no question that members of radical environmental and animal rights groups have caused damage to a number of targets. As the ADL cites, “automobile dealerships, housing developments, forestry companies, corporate and university-based medical research laboratories, restaurants, fur farms, and other industries” have been targeted across the country ([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). Ackerman (2003) describes the broadening of ELF targets in recent years from the former mainstays of loggers and ski resorts, perhaps due to a widening anti-government philosophy: “Now everything from university laboratories, horse

corrals and banks to Burger Kings, private homes, and increasingly SUV's have been involved in ELF attacks" (p. 153).

Through geo-spatial analysis of the American Terrorism Study database, Smith and colleagues (2009) were able to determine that environmental offenders often lived and participated in planning activities close to their targets. In addition, this investigation revealed that these offenders were much more impulsive than international terrorists utilizing a much shorter planning period. In fact, Smith et. al (2009) note that these particular 'single-issue terrorists' participated in their first planning activity a mere fifteen days before the incident with a 'flurry of activity' right before the event. In addition, there was often little contact among members prior to an incident. These patterns mostly held up among separate analysis of incidents involving the Family, a group of organized ALF and ELF members that were responsible for a number of serious attacks. In fact, the Family was even more spontaneous than the other groups in Smith and colleagues' (2009) sample, with most of their preparation occurring within six days of a given incident. Therefore, costs and benefits are evaluated relatively quickly. However, the authors do note that the Family lived further from a given incident than the more traditional lone wolves, represented from their additional use of air travel and the postal service.

As previously discussed, the amount that these groups target humans is up for debate (Eagan, 1996; Perlstein, 2003; Vanderheiden, 2005; Liddick, 2006; Vanderheiden, 2008). Eagan (1996) argues that the media may ignore events that do



not result in violence and that these groups desperately seek out publicity<sup>5</sup>. This may be why, as the ADL contends, that the targeting of humans is something that has been recently added to the rhetoric of communiqués published by radical eco-groups:

“Threats of violence have become a troubling trend in the movement”

([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). The ADL cites e-mails related to a recent bombing of a company in business with HLS: “Customers and their families are legitimate targets...you never know when your house, your car even, might go boom”” ([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). Ackerman (2003) contends that this more violent language represents a larger “propaganda shift,” where members have begun to question more passive techniques. This researcher notes that in his evaluation of the ELF he discovered some thirty-six separate communiqués that allude to the targeting of humans. Although scholars like Vanderheiden (2005; 2008) might argue that these propaganda are the exception rather than the rule and stand in direct contrast to their governing philosophy<sup>6</sup>, it would seem that at the very least, the *threatening* of humans by members of radical eco-groups has occurred. Ackerman (2003) clarifies the seeming contradiction: “While it may seem hypocritical for any ideology that accuses people of not recognizing the sacred equality of humanity with animals and nature to then turn around and debase human beings, there is evidence of misanthropism among radical environmentalists, reflected in the belief among at least some activists that corporate

---

<sup>5</sup> In contrast, Vanderheiden (2005) contends that the majority of these extremists do not act for greater society: “The intended primary audience for ELF is not the mass public, but rather the polluter or developer that is responsible for some ongoing act of ecological destruction” (p.438).

<sup>6</sup> As Vanderheiden (2005) notes, “ecotage presents the risk of violating its own principles, either by inadvertently causing harm to persons or in appearing to sanction violence such that the strategy could be hijacked by less principled cohorts” (p. 445).

and government officials are evil, greedy, and corrupt exploiters with few or no redeeming qualities” (p. 145). Thus, some of the more radical contingent may perceive that there are benefits to using violent methods against the especially immoral targets, regardless of the costs to the legitimacy of the movement.

Ackerman (2003) goes on to state that while members of ELF will not directly target humans they are often aware of the accidental harm that may occur from strategies that they endorse. In response, Taylor (2003) argues that, “despite many examples of strong martial rhetoric and verbal endorsements of the permissibility of violence from the 1980s onward, there is as yet no clear evidence that radical environmentalists have unleashed lethal violence or even caused great bodily harm to movement adversaries” (p. 176). Clearly, the debate over the extent to which members of radical environmental and animal rights groups target humans is a complicated one and made even more complex with its tie in to the aforementioned definitional issues regarding the terms eco-terrorism and ecotage.

The majority of tactics utilized by members of these groups take the form of vandalism of property or related disruptions (for example, the release of animals being utilized for medical research). These methods are relatively harmless. However, environmental and animal rights extremists have employed dangerous and potentially lethal tactics (Eagan, 1996; Liddick, 2006). One such tactic, the previously discussed tree-spiking, “involves driving long metal spikes into trees scheduled for harvesting on public lands. Although the spikes do not harm the trees, they can be lethal when they come into contact with either a chain saw or mill blade” (Eagan, 1996:6). In fact, tree-spiking has been responsible for severe injuries (Eagan,

1996). In addition, attempts by the timber industry to identify spikes through the use of metal detectors have been circumvented by some extremists through the use of ceramic or stone nails. Despite the aforementioned opposition from high profile groups, tree-spiking continues to be used as a tactic to hinder the logging industry. However, and as previously noted, most groups have discontinued its use or have modified the tactic to be less dangerous to loggers (Vanderheiden, 2005).

Other dangerous tactics committed by members of radical eco-groups include arson and bombings. Ackerman (2003) notes that ELF's, "most destructive tactic to date has been the copious use of arson against a variety of targets that its members believe endanger the earth's environment in one way or another" (p.143). Perhaps the most infamous arson conducted by any environmental or animal rights extremist in the U.S. took place at a ski resort in Vail, Colorado ([www.adl.org/learn/ext\\_us/Ecoterrorism](http://www.adl.org/learn/ext_us/Ecoterrorism), Accessed March 4, 2009). Through the setting of seven individual fires, the Family was able to cause over 12 million dollars in damages. Since this attack, a series of arsons have targeted various housing developments that groups felt were built on what should have been protected land or were characteristic of urban sprawl. Most notable, environmental extremists damaged a series of homes in San Diego causing over 50 million dollars in damage (Ackerman, 2003). Recently, groups have turned their attention to setting car dealerships on fire, especially those that sell SUVs. Bombings have been less popular as a tactic despite the easy accessibility of how-to manuals on various extremists' websites (Liddick, 2006). Most of these incidents have been thwarted by police efforts (Eagan, 1996) and many have taken the form of hoaxes rather than genuine

attempts. Nonetheless, enough incidents have been successful, constituting the use of bombs as a lucrative strategy in both making progress for the cause and in drawing attention to the issue (Eagan, 1996).

Considered to be one of the most frightening tactics is the use of CBRN (chemical, biological, radiological, and nuclear) weapons by environmental and animal rights extremists. Ackerman (2003) highlights the history of CBRN weapons in the environmental movement, demonstrating that such an association is not as farfetched as would be expected given the stance most groups take against chemicals in the environment. Ackerman (2003) describes the case of RISE, “a small group of ecological extremists who in 1972 intended to wipe out the entire human race using infectious diseases...the manifesto of the group declared that human beings were destroying the planet and that the only way to prevent this was for the human race to be obliterated, with a select group of people who could live in harmony with nature” (p. 158). Ackerman (2003) also points to four other significant cases including one involving the use of anthrax to protest the British government and an incident where Greenpeace placed toxic waste outside the Manila U.S. Embassy. Ackerman (2003) concludes that, “it is far from inconceivable that an environmentally motivated group like ELF would threaten or use chemical or biological agents if they believed this would further their cause of saving the earth from destruction” (p. 160). However, Ackerman (2003) also notes that there is no ideological imperatives leading a member of a radical environmental or animal rights group to use CBRN weapons, nor is there any proof that ELF in particular has the capability to acquire these weapons. This is not to say, as Ackerman (2003) maintains, that there is the possibility of CBRN use

by extremists in the future. Nonetheless, scholars like Taylor (2003) disagree with Ackerman's (2003) contention of this future possibility, arguing that even with anarchist groups whose ideology could support such attacks (which he separates from radical environmentalists and animal liberationists as previously noted), there is a greater possibility of more of the same. That is, according to Taylor (2003), members of these groups are much more likely to commit acts of non-lethal arson and protest against the police and other "repressive agents of globalization."

Despite this vibrant discussion surrounding the terminology, philosophy behind, dominant groups, and the target and tactics of members of radical eco-groups, there is considerably less theoretical development aimed at explaining their behavior. The next section explores the rational choice perspective in regards to its ability to clarify crime and terrorism in general and its promise in application to the criminal and terrorist activities of environmental and animal rights extremists.

### *Rational Choice and Crime*

As previously noted, the rational choice perspective maintains roots in the classical school of thought and its assumptions regarding human nature. Both rational choice and its theoretical offspring, deterrence theory, have been extensively researched and empirically tested in regards to most criminal offenses. Overall, the objective deterrence literature, with its focus on the role of an increase in costs (measured through punishment) on reducing aggregate crime rates, demonstrates some support for the effectiveness of such punishment that are certain, but not severe (Pratt et al., 2006). For example, Sherman and Berk (1984) established that automatically arresting an offender for domestic violence significantly decreased

recidivism in the six-month follow up period when compared to counseling or separating the couple. Additional research conducted on mandatory arrests has been supportive, but with certain caveats regarding employment and marital status (Sherman et al., 1992; Maxwell et al., 2002). Other certain policing strategies like increased presence (Kelling et al., 1974) and crackdowns (Sherman et al., 1995) have been less successful at deterring crime, although hot spot patrols offer considerable promise (Braga, 2001).

The severity of punishment has been extensively examined through death penalty investigations (Gibbs, 1986; Tittle, 1969; Bailey, 1998; Cochran & Chamlin, 2000). For example, Cochran and Chamlin (2000) explored the aftermath of the well-publicized execution of Robert Alton Harris, the first after a twenty-five year moratorium in the state of California. The authors argued for both a brutalization and a deterrent effect based on the offense examined. In other words, executions could devalue human life and consequently increase argument murders of strangers. In addition, Cochran and Chamlin (2000) maintained that executions could also decrease rational, instrumental crimes as they would affect the cost-benefit analysis of a given offender. The researchers discovered support for both offense-specific effects, adding to the complexity surrounding the value of severe punishments. Overall, the empirical consensus suggests that such punishments are not enough to deter crime, supported by other severe punishment investigations like those into three strikes laws (Kovandzic et al., 2004; Pratt et al., 2006). However, it is possible that environmental and animal rights extremists are more likely to be influenced by severe punishments due to a higher stake in conformity than the average criminal (Liddick, 2006).

Perceptual deterrence research has discovered similar results regarding the certainty and severity of punishment (Pratt et al., 2006). As noted in the introduction, Jensen and colleagues (1978) established a relationship between the perceived risk of a punishment and self-reported delinquency. Overall, more modern research has discovered additional support for the relationship between the perception of certain punishments and intentions to offend. As Nagin and Pogarsky (2003) discovered in their randomized experiment, the presence of a proctor (certainty), but not the loss of the incentive (severity), decreased the prevalence of cheating on a trivia quiz. Although not an illegal behavior per se, the authors argue that motivation for antisocial actions is informative of its criminal counterpart. Once again, it is possible that members of radical eco-groups are more susceptible to severe sanctions due their higher stakes in conformity.

Nagin and Pogarsky (2003) also uncovered that the prevalence to cheat varied by individual characteristics. Specifically, an individual that was both self-serving and present-orientated was also an individual that more likely to cheat, regardless of sanction characteristics. The next section reviews additional research that falls within this area; individual characteristics that affect the perception of sanctions and thus the individual decision-making of offenders.

### *Individual Differences in the Perceptual Deterrence*

The consideration of individual factors, like the role that a person's level of self-control or internalized morality plays, has become an important avenue of research and is important to take into consideration when examining differing levels of "deterability" (Grasmick and Bursik, 1990; Bachman et al., 1992; Nagin and

Paternoster, 1993; Paternoster and Simpson, 1996; Pogarsky, 2002; Nagin and Pogarsky, 2003). In regards to levels of self-control, Nagin and Paternoster (1993) examined the significance that this measure of criminal propensity had in self-reported decisions to commit drunk driving, theft, and sexual assault among a sample of college students. The authors established that those with low self-control, “find it difficult to invest in conventionality because they discount future rewards in favor of immediate pleasures...persons with poor self-control commit crimes at a consistently higher rate than others because they have less to lose” (p. 490). In other words, those with low self-control are also individuals that have a high “discount rate” and consequently are more likely to offend and less likely to invest in their own “human capital” (Nagin and Paternoster, 1993). More recent research (Pogarsky, 2002; Nagin and Pogarsky, 2003) has continued to find support for individual differences in the perception of formal sanctions, particularly among those considered to have characteristics representative of low self-control. Nonetheless, most scholarly work suggests that terrorists need self-control in order to undergo the planning and preparation inherent to their acts (LaFree and Ackerman, 2009). Thus, while an important development in the perceptual deterrence literature, this work is less relevant to members of radical environmental and animal rights groups.

The similar, albeit more pertinent, concept of moral inhibitions focuses on the level of morality each person carries with them. This level of morality, in turn, affects an individual’s cost-benefit analysis of a particular act, along with their perceptions of a given legal sanction. Although predated by a number of studies (Grasmick and Green, 1980; Grasmick and Bursik, 1990), Bachman et al. (1992)



offer one of the most rigorous examinations of moral commitment through the use of a vignette-based survey of college males. These researchers discovered that moral inhibitions had a significant influence on projections to commit a sexual assault. In fact, formal sanctions played no part in these projections when a person's morality was taken into consideration. As the authors note, "the restraint of moral inhibitions, then, may under some circumstances be so strong that they preclude the consideration of instrumental concerns, such as the risk of formal sanctions" (p. 364). This is an important consideration when examining the motivations of environmental and animal rights extremists. It is possible that these extremists, many of whom adhere to a philosophy that speaks to the importance of valuing life, are perhaps more deterred by considerations of the morality of, rather than the sanctions that result from, a given act.

In 1996, Paternoster and Simpson followed up on this research with a fresh focus on corporate crime. The authors argued that there are a number of factors that white-collar offenders take into consideration when deciding to commit a crime including formal and informal sanctions, moral evaluations, and organizational factors. Paternoster and Simpson (1996) clarify the concept of moral inhibitions: "As a deontological source of constraint, moral inhibitions are not based on the consequences of one's behavior. One does not behave a certain way because of the expected outcomes or because it is expected by others. Rather, moral rules are internalized: certain acts are not committed because it is believed to be morally correct not to commit them" (p. 554). The implications of this, the authors contend, are twofold. First, moral evaluations will play a separate role to that of any cost-

benefit analysis. Second, these moral evaluations will condition the impact of this analysis. Paternoster and Simpson (1996) found support for both of these contentions; a person's internalized morality had a profound influence on their intentions to offend. In addition, when this morality was high, other factors like the perceptions of formal sanctions carried little weight. In further analyses, Paternoster and Simpson (1996) determined that those with strong moral inhibitions can be influenced to commit a crime if they sense that their company is losing ground to competition or is fighting an "unfair" law. The scholars note that those with high levels of morality, "may be swayed into committing corporate misconduct if there is some appeal to a higher, more compelling, or more immediate moral principle" (p. 577). It is possible that this component ties in with members of radical eco-groups; that is, extremists may commit criminal acts when they perceive a company to engaged in especially immoral actions.

Through this review, I have demonstrated that the concept of moral inhibitions has been successfully applied to crimes like sexual assault and white collar offenses. But how does the concept of moral inhibitions, or more generally, the rational choice perspective, relate to political violence? In the next section I offer an interpretation of how criminology has been applied to this area of study.

### *Rational Choice and Terrorism*

LaFree and Dugan (2004) discuss both the conceptual and methodological overlap and the discrepancies between more common crimes and that of terrorism; since both behaviors are committed by radical environmental and animal rights groups it is important to examine both literatures. These conceptual overlaps include

that fact that both concepts are studied in multiple disciplines, are socially constructed, and have definitional gaps between theory and practice. In addition, both common crime and terrorism are disproportionately committed by young males and greatly undermine levels of social trust in communities. LaFree and Dugan (2004) also point out conceptual differences; namely, terrorism involves many separate crimes and requires a broader response from local authorities. Terrorists, as LaFree and Dugan (2004) note, are also more likely to seek exposure, conduct their act for political goals, see themselves as altruists, and innovate than everyday criminals. Although the authors are careful to acknowledge that these conceptual differences are important, they conclude that, “it also seems clear that most of these differences can be resolved with research methods currently available to criminologists. In fact, we strongly believe that the experiences of criminologists in analyzing crime data might make a real contribution to the study of terrorism” (p. 21).

Based on contentions like the above from LaFree and Dugan (2004), criminological theory seems a promising avenue for the study of terrorism. Recent research has focused on bringing the rational choice perspective to this context as it has been demonstrated that terrorists are often not psychopathological, but rather rational actors (LaFree and Ackerman, 2009). As LaFree and Ackerman (2009) summarize, “the cause of terrorism in this case is the subjective perception by the terrorist group’s decision maker(s) that engaging in terrorist violence is the best possible means among the alternatives by which to accomplish the organization’s goals” (p. 28). LaFree and Ackerman (2009) also conclude that both status and excitement can also serve as benefits for individual-level terrorist activity and that

group-level behavior may decrease if perceptions of the costs of terrorism exceed the benefits. These ideas may also be relevant to members of radical eco-groups, who could also be motivated by status and excitement and most certainly commit acts of terrorism when the benefits (i.e. the monkeys live another day) outweigh the costs (imprisonment).

Frey and Luechinger (2002) present a rational choice model with the supply side represented as the marginal costs to terrorists and the demand side as the marginal benefit. The authors maintain that this model assumes that terrorists are both extrinsically (i.e. fame) and intrinsically (i.e. convinced they are doing the right thing) motivated. Frey and Luechinger (2002) also note that potential rewards must be taken into account when considering a rational choice model; these rewards include media attention, destabilization of a political system, and damage to the economy. Based on this model, the authors contend that policies aimed at deterring terrorism may actually increase related incidents. This backfire effect is most an issue when the policy in question increases the centrality of decision-making related to the political system and the economy. As Frey and Luechinger (2002) explain, “it may well be that the increasing centralization of the economy and polity so much raises the attraction to terrorists to such an extent that the equilibrium amount of terrorism increases” (p.11). The authors argue that the solution is to prevent such centralization. However, members of radical eco-groups seem concerned with the mainstream political and economic system mostly in how it protects the environment and animals making centralization less of an effective prevention strategy.

Also from within the rational choice framework is the work of Braithwaite (2005), who examines terrorism from within these and other theoretical viewpoints. Similar to Frey and Luechinger (2002), Braithwaite (2005) sees the relationship between terrorism and deterrence as a possible two-sided relationship. That is, deterrence policies can decrease terrorism as predicted by the theoretical propositions, or increase attacks resulting from a reactance or defiance effect. As Braithwaite (2005) summarizes, whether deterrence ‘works’ is contingent on whether the deterrent effect is larger than its defiance counterpart. Braithwaite (2005) notes that the deterrent effect will outweigh that of the defiance effect when (1) the freedom desired is not of high importance and (2) the procedures put in place to regulate a given freedom are perceived as fair. Through discussion of relevant criminal justice, war, and public health models Braithwaite (2005) comes to the conclusion that, “success in reducing risk is more likely from an integrated web of regulatory controls that is redundantly responsive to the multiple explanatory theories grasped as relevant to the control problem” (p. 111). It is likely that a successful deterrence policy aimed at environmental and animal rights extremists, based on Braithwaite’s contentions, is a policy that is perceived as fair and that promotes the utilization of legitimate avenues to obtain goals.

Terrorism research from the rational choice perspective has also focused on the effectiveness of countermeasures. As noted by Smith and colleagues (2009), “while traditional violent crime tends to be very spontaneous, terrorist violence tends to involve considerable preparation and the commission of substantial preliminary or ancillary criminal conduct” (p. 6). This is significant in that such preparation allows

for a higher probability of law enforcement prevention and intervention measures than with common crime. Despite the previously described findings regarding environmental offenders and their considerable spontaneity, Smith and colleagues (2009) maintain that activities like the purchase of materials for incendiary devices can key local law enforcement into the fact that an attack is coming and is likely to occur near where the materials were purchased.

Perlstein (2003) is less optimistic arguing that without the proper training and a partnership with the FBI, “local law enforcement cannot deal with the threat posed by the Earth Liberation Front” (p. 172). Thatcher (2005) agrees that there are limitations to what local law enforcement can do regarding countermeasures based on the presumption that cities are “social structures with interests of their own” (p. 42) and thus, often act separately from the wishes of a large and decentralized federal government. In a case study of Dearborn, Michigan and a discussion of an interview project administered by the Justice Department, Thatcher (2005) demonstrates that when local officials target certain groups they risk damaging both their reputation or “status honor” and their legitimacy. Instead, Thatcher (2005) argues, local law enforcement should focus their efforts on what he terms “community protection” or, “all the tasks involved in protecting a specific place against terrorism, including target hardening, preventative patrol focused on likely targets of terrorist attack, response to threats against a specific target, and the development of emergency response plans” (p. 637). These strategies would likely aid in the prevention of attacks by environmental and animal rights extremists, especially in regards to target hardening.

In a recent empirical review of countermeasures, Lum and colleagues (2006) discovered that the majority of these strategies were ineffective and some even increased the likelihood of terrorism. Such ineffective strategies included the fortification of embassies (Enders and Sandler, 1993), UN resolutions against terrorism (Enders et al., 1990), military interventions/retaliatory attacks (Enders et al., 1990; Enders and Sandler, 2000), and increasing the certainty and severity of punishment (Landes, 1978).<sup>7</sup> Lum et al. (2006) also note that the one successful intervention, the role of metal detectors in decreasing hijackings as discussed in Dugan et al. (2005), may have actually increased other forms of terrorism due to displacement. However, the researchers do caution that, “the available scientific evidence was drawn from only a handful of studies which use moderately rigorous research designs; this limits the strength of the evidence and the conclusions that can be drawn from it” (p. 1). Lum and colleagues (2006) conclude that, “the most important policy recommendation to emerge from this review is that the wide-array of anti-terrorism policies need to be evaluated for effectiveness or at least be better informed by existing scientific evaluations” (p. 33).

Since the review by Lum and colleagues (2006) was conducted, additional empirical evaluations of countermeasures have been carried out (Pridemore and Freilich, 2007; LaFree et al., 2009). One such evaluation by Pridemore and Freilich (2007) assessed policies aimed at combating anti-abortion violence. The authors proposed that those carrying out violent attacks were, “unlikely to be deterred, but they may respond to statutes with increased violence and harassment because they

---

<sup>7</sup> For instance, the 1986 U.S. attack on Libya following Libya’s involvement in a bombing in West Berlin (Lum et al., 2006).

perceive they are losing a battle that to them is about life and death itself” (p. 612). Therefore, the authors predicted a backlash effect; that is, states with laws considered supportive of abortion clinics and rights would also have higher rates of anti-abortion violence. On the other side of the argument is the contention that, “the pro-life movement, while vehemently opposed to abortion, have not rejected mainstream society and still accept government authority” (p. 613). Consequently, Pridemore and Freilich (2007) also anticipated a deterrent effect; specifically, states with laws protecting abortion clinics and rights, considered to demonstrate a high level of certainty and severity of punishment, would have lower levels of anti-abortion violence. Interestingly, the authors discovered null findings and conclude that while, “laws serve important symbolic values they may have little practical effect” (p. 623). This contention is important to evaluate on the other side of the political spectrum; in particular, how have laws influenced members of radical environmental and animal rights groups?

Another recent addition to the countermeasure literature is the investigation of six major British strategies in Northern Ireland conducted by LaFree and colleagues (2009). These researchers discovered that the majority of the policies examined produced a backlash effect. In other words, three of the six military interventions increased the likelihood of the prohibited behavior and two had no effect. As LaFree et al. (2009) note, “the only support for deterrence among six interventions was for a major military surge, which significantly reduced the hazard of new attacks” (p. 19).

All in all, the results of rational choice based explorations of terrorism, addressed through both abstract discussions (Braithwaite, 2005) and more concrete



empirical evaluations (LaFree, et al. 2009), are mixed at best. As Dugan (2009) contends, “effectively deterring terrorism will require an evolving understanding of the complexity of the terrorist players and situational context” (p. 744). So how do these particular strategies relate to radical eco-group players? The next section reviews a series of unevaluated countermeasures measures; namely three pieces of federal sentencing legislation targeted at reducing the illegal activities of environmental and animal rights extremists through increasing the severity of punishment.

### *Countermeasures and Radical Environmental and Animal Rights Groups*

A handful of pieces of legislation have intended to reduce the criminal conduct of environmental and animal rights extremists in the U.S. (Walker, 2007). One such piece of legislation, the Stop Terrorism Property Act of 2003 (STOP), made any act committed by a member of a radical environmental or animal rights group a federal crime. This act, along with the Eco-Terrorism Prevention Act of 2004, has never been passed due to potential First Amendment violations. However, their 1988 and 1992 predecessors, the Anti-Drug Abuse Act of 1988 (ADA) and the Animal Enterprise Protection Act of 1992 (AEPA) and their recent successor, the Animal Enterprise Terrorism Act of 2006 (AETA), have been signed into law.

All three of these federal sentencing acts have their own unique history and political context, yet all three share the same implication; namely, the use of sentencing enhancements for crimes, many of which were previously considered to be vandalism. Thus, this legislation has implications for a defendant’s treatment and outcome in criminal justice proceedings. Most importantly, AETA has consequences

through treating environmental and animal rights offenders as terrorists in the federal system. Research has demonstrated that those charged as such already receive longer sentences (Smith, 1994) and that the label of “terrorist” is the most significant predictor of sentence length in multivariate analyses (Smith and Damphousse, 1996). In fact, Smith and Damphousse (1996) discovered that by adding political motive to their analyses, they greatly increased the explained variance of their model. The authors summarize: “By identifying the defendant’s use, or threat to use, violence to ‘achieve political or social goals,’ the government initiates a strategy that begins with the relaxation of investigatory regulations, increases expenditures in manpower and funding, alters prosecutorial strategies, and ultimately lengthens the sentence of the politically motivated offender” (p. 313). The authors go on to clarify the sentencing disparity: “The absence of a jury, a reduction in the standard of proof used in civil suits of ‘preponderance of the evidence,’ and the allowance of ‘uncharged and unconvicted conduct’ as evidence all provide for upward departures in the sentencing of terrorists” (Smith and Damphousse, 1996: 314). Follow-up research conducted by these authors (Smith and Damphousse, 1998) demonstrated the roles that pleading “not guilty” and the political environment (toward proactively prosecuting terrorists) played in the sentencing disparity of terrorist offenders.

Therefore, ADA, AEPA, and AETA can all add to the offender’s sentence through either prosecution under that particular legislation or through treating the offender as a political criminal in the federal system. From a rational choice and specifically a deterrence framework, these acts increase the costs of committing crime through enhancing the severity of the associated punishment. This legislation was

also the first steps by the federal government to respond to the implied danger of members of radical eco-groups, making them significant events in the timeline of U.S. countermeasures. The next sub-sections detail each act's history and penalties.

#### The Anti-Drug Abuse Act of 1988

The Anti-Drug Abuse Act of 1988 (ADA) was initially unrelated to the activities of radical eco-groups. It was Idaho Senator James McClure (R), as Smith (2008) describes, that proposed the inclusion of a subsection criminalizing tree-spiking after arguing that members of these groups had injured a number of loggers. Specifically, the use of any “hazardous or injurious device on federal land with the intent to obstruct or harass the harvesting of timber” (Smith, 2008: 546) can be met with a twenty-year prison sentence depending upon the circumstances of the offense. Smith (2008) documents the passing of this important legislation in conjunction with a larger political movement against environmental and animal rights activists, including the first use of the term eco-terrorism. Therefore, while this act is focused on tree-spiking, it was part of a larger effort to symbolically legislate the criminal conduct of members of radical environmental and animal rights groups.

#### The Animal Enterprise Protection Act of 1992

The Animal Enterprise Protection Act (AEPA) is another important piece of legislation. As Walker (2007) notes, “AEPA increased penalties on a person who ‘intentionally causes physical disruption to the functioning of an animal enterprise by intentionally stealing, damaging, or causing the loss of, any property (including animals or records) used by the animal enterprise, and thereby causes economic

damage exceeding \$25,000 to that enterprise, or conspires to do so” (p. 104).

Walker (2007) clarifies that this act does not aim to punish “lawful disturbances” and that the, “penalties are differentiated into four classifications (1) economic damage; (2) major economic damage; (3) serious bodily injury; and (4) death” (p. 99). Each classification is associated with its own sentence; in fact, there is a continuum of penalties beginning with fines and restitution and ending with life imprisonment.

Walker (2007) contends that AEPA does not have First Amendment concerns due to the specificity of the language used in regards to protesting; in other words, protesting is not an act that is punishable under this legislation. Although aimed at actions against animal enterprises, this act likely had an impact on the broader movement of radical activities irrespective of ideology.

#### The Animal Enterprise Terrorism Act of 2006

The Animal Enterprise Terrorism Act of 2006 (AETA) is the most recent addition to the countermeasure milieu. AETA, “enhanced penalties for “acts disruptive of an ‘animal enterprise’ and leading to a ‘reasonable fear’ on the part of that enterpriser’s owner for their property, including boycotts or other forms of previously lawful protest leading to ‘losses or increased costs’ exceeding \$10,000” (Vanderheiden, 2008: 306). This act also broadened the offense categories of AEPA with a focus on interstate travel and the mail service (Walker, 2007). AETA specifically addressed the problem of third party targeting; as previously noted this is a tactic made infamous by SHAC, whose members harass companies they feel support Huntingdon Life Sciences and its subsidiaries. As Walker (2007) argues, “As

the AEPA's scope and power would increase, it would become a more effective tool for prosecutors" (p. 117).

AETA has been the most controversial of the federal sentencing legislation aimed at members of radical eco-groups. In a letter to Congress, the American Civil Liberties Union (ACLU) argued AETA, "criminalizes First Amendment activities such as demonstrating, leafleting, undercover investigations, and boycotts. The bill is overly broad, vague, and unnecessary because federal criminal laws already provide a wide range of punishments for unlawful targeting of animal enterprises" ([www.aclu.org/freespeech/gen](http://www.aclu.org/freespeech/gen), Accessed March 30, 2009). The ACLU seems to take the most issue with the part of AETA that penalizes disruptive activities; these are activities that could include the aforementioned leafleting and boycotts. The ACLU also contends that AETA, "would also make the expanded crime a predicate for Title III federal criminal wiretapping. This provision could be used for widespread domestic surveillance of animal rights organizations" ([www.aclu.org/freespeech/gen](http://www.aclu.org/freespeech/gen), Accessed March 30, 2009).

All three of these federal sentencing acts, the Anti-Drug Abuse Act of 1988, the Animal Enterprise Act of 1992, and the Animal Enterprise Terrorism Act of 2006, demonstrate key pieces of legislation that have increased the costs of crime by escalating criminal justice penalties. It is unclear, however, whether these laws have had an impact and whether that impact has been positive or negative. In the next section, I review another probable influence in the decision-making of members of radical eco-groups; moral inhibitions and moral context.

### Morality and Terrorism

As previously established, the majority of research from the rational choice perspective on terrorism has taken the form of countermeasure evaluation. Little to no research has analyzed such measures through perceptions in the vein of Jensen and colleagues (1978), and even less has focused on the individual differences (i.e. self-control or morality) of such perceptions. Again remembering that terrorism is a deliberate act often involving planning (Smith et al. 2009), the research on low-self control in regards to perceptions of punishment seems less relevant. On the other hand, the concept of moral inhibitions seems especially pertinent given the aforementioned philosophical underpinnings of members of radical eco-groups. In addition, the recent discussion of morality, both on this individual-level and with a more macro-level abstraction, has come to the forefront of the discussion on terrorist motivation (Bouhana and Wikstrom, 2008; Wheatley and McCauley, 2008).

For instance, Bouhana and Wikstrom (2008) recently developed an explanation of terrorism through a morality framework. In fact, these researchers define terrorism as moral actions, or “actions defined by what is the right or wrong thing to do or not to do in a particular circumstance” (p. 35). The authors argue that it is important, first and foremost, to explain why an individual would consider terrorism in the first place taking into account most people would never even contemplate such an action. Bouhana and Wikstrom (2008) argue that terrorism as an “action alternative” is chosen and seen as viable based on a person’s individual morality (values and emotions) and the moral context (rules and enforcement). The authors conclude that, “to understand the role of broader social factors and their

change in promoting acts of terrorism, it is essential to focus on identifying which (and how) such factors influence the emergence and change of the moral contexts in which people develop and act” (p. 36). In essence, from this perspective morality is viewed as both an individual-level construct as discussed in the moral inhibition literature and a macro-level context that can either facilitate or impede terrorism as a tactic. Therefore, it is not that people become more or less moral internally, but that terrorism is seen as a less moral option in certain environments.

Wheatley and McCauley (2008) discuss the importance of moral context in their case study of the especially brutal Luxor massacre and its influence on the decline of Egyptian terrorism. Specifically, the attack was met with derision from the Egyptian citizens, who at one point assisted the police in capturing the offenders. As the authors note, even members of the Islamic Group denounced the massacre, creating a division in the ranks. These moral repercussions combined with the economic impact of the attacks, most pronounced in a substantial decline in tourism, lead to an overall disillusionment with Islamic extremism. This in turn allowed the government to have greater leeway and influence in their countermeasure strategy. As Wheatley and McCauley (2008) summarize, “IG and its attack at Luxor have to been seen as part of a dynamic system of terrorist attacks and government response that culminated in divisions and weakness among the terrorists that occurred in association with alienation of their base of sympathy in the Egyptian population” (2009:4). The authors also contend that it is the moral dimension that, “emerged as decisive in the struggle between terrorists and the government” (p. 23) and that, “a terrorist act seen as immoral has the potential to make all terrorists immoral” (p.24).

It is possible that events in the history of radical environmental and animal rights groups have had a similar influence.

Dugan and colleagues (2008) provide an argument along the same lines in their empirical investigation into the desistance of two terrorist organizations: the Armenian Secret Army for the Liberation of Armenia (ASALA) and the Justice Commandos of the Armenian Genocide (JCAG). Dugan et al. (2008) test three main hypotheses regarding the desistance of these groups. First, group-level desistance is related to disillusionment with ASALA's increasing tendency to target non-Turkish citizens, culminating with the lethal incident at the Orly airport in 1983. Second, terrorism will increase before the Orly incident in response to more attacks against non-Turks and decrease after the incident has occurred. Finally, unsuccessful attacks will lead to fewer incidents in the future. Overall, the researchers find support for these hypotheses and maintain that, "Orly was a tipping point not only for ASALA operations but also for its public image. Broad targeting, extortion, and retailing of mercenary services effectively undermined the group's legitimacy in the eyes of both the diaspora and the West" (p. 243). Interestingly, ASALA was not the only group undermined by this attack, but JCAG, a group on the other side of the political spectrum, was affected as well. This spillover is likely due to a public pronouncement against terrorist activity, JCAG's targeting strategies notwithstanding. Although the authors do not reference morality as responsible for ASALA's and JCAG's desistance, it can be inferred that a public pronouncement against terrorism is indicative of a macro-level moral objection. In other words, the Orly incident



increased the costs of being associated with terrorism by making such tactics immoral to the larger community regardless of goals or circumstance.

Eidelson and McCauley (2009) recently brought the focus to U.S. domestic incidents with a look at the impact of the Oklahoma City bombing. Through examining correlations in the American National Election Surveys, the authors noticed a peak in support for right-wing extremism right before the bombing, and then a substantial decrease thereafter. More specifically, a scale composed of items measuring responses that indicated that the “government is out of control” and “minorities are a threat” reached its highest number in 1994 and then steadily dropped off. Eidelson and McCauley (2009) conclude that there is a connection between public opinion and right-wing terrorism. However, the researchers do not specify the role of a moral environment as the mechanism in that connection, but rather a related decrease in public sympathy for the ideology. Once again, it is possible that other U.S. terrorist events, specifically those perpetrated by members of radical environmental and animal rights groups, had a similar influence on support for their movement.

### Summary

In this review of the literature, I have clarified the debate behind the construction of the terms eco-terrorism and ecotage, discussed the philosophical background of those that adhere to biocentrism and deep ecology, reviewed the most influential of the radical environmental and animal rights groups with a focus on their structure and important leaders, and examined the targets and tactics that groups have utilized in the past. Most importantly, I explored the rational choice perspective,

micro and macro-level conceptualizations of morality, and their applicability to terrorism as a whole and specifically, to the criminal and terrorist conduct of members of radical eco-groups. Based on this assessment, in the next chapter I describe the quantitative and qualitative data collection process, provide the operationalization of important variables, identify the related research questions and my hypotheses, and detail the analyses involved in testing these hypotheses.

### Chapter 3: The Current Study

In Chapter 2, I demonstrated the lack of empirical work and theoretical conceptualization aimed at explaining the illegal activities of members of radical environmental and animal rights groups. My discussion of the rational choice perspective displayed the wealth of research testing the impact of how an increase in costs, namely through certain, severe, and swift sanctions, affects illegal behavior. However, my review also showed that the majority of such policies measured at the aggregate-level are ineffective; the little research on terrorist countermeasures mirrors these findings. Nonetheless, the potential deterrent of policies aimed specifically at members of environmental and animal rights extremists remain untested. In this dissertation, I will examine the possible deterrent impact of three sentencing acts designed to have an effect on the illegal behavior of members of these groups.

My review also demonstrated the significance of the perceptual deterrence literature, and specifically, the importance in considering individual differences in perceptions. In particular, the work on moral inhibitions is especially pertinent given that the philosophical background of environmental and animal rights activists is based on concepts of biocentrism and deep ecology. As previously discussed, Bouhana and Wikstrom (2008) emphasize this individual-level morality and add the idea of a moral context when explaining terrorism. As Wheatley and McCauley (2008) demonstrate, especially brutal terrorist attacks can change the context in which terrorism is evaluated and make it more likely that future acts of terrorism will be judged as an inappropriate action alternative. Eidelson and McCauley's (2009) research showed how the Oklahoma City bombing was one such event in recent U.S.

history; this event likely increased the costs of being associated with terrorism for those with a right-wing ideology. It is probable that events within the radical eco-movement, especially ones seen as violent and specific to an environmental or animal rights ideology, have had the same impact in regards to changing the climate.

In this dissertation, I evaluate how these different theoretical elements affect the amount and type of incidents perpetuated by members of radical eco-groups, along with the individual-level decision-making of these members. That is, I seek to answer, *Are members of radical environmental and animal rights groups deterred by legal sanctions, morality, both, or neither?* Based on a rational choice framework, I hypothesize that members of these groups are deterred by considerations of both sanctions and morality.

In this chapter, I outline the procedures for the qualitative data collection, namely interviews with environmental and animal rights activists. I also detail the construction of the quantitative data and report descriptive statistics for this dataset. Table 3.1 lists the sources used for this construction, along with the years they cover and the number of incidents included. I describe the two primary sources, along with the other related chronologies employed to further supplement the dataset.

## Data

### Interview Data

As noted, I collected qualitative data in order to establish the appropriateness of the rational choice framework in explaining those motivated by an environmental or animal rights ideology. Specifically, I wanted to pinpoint the role that legal sanctions and/or morality plays in the individual-level decision-making of

environmental and animal rights activists. In particular, a micro-level conceptualization like that of moral inhibitions is best explored by asking participants about how they frame their decision-making when it comes to participation in criminal and even terrorist acts. As Fontana and Frey (1998) note, “interviewing is one of the most common and most powerful ways to understand our fellow human beings” (p. 47).

### Sample

I conducted 25 interviews<sup>8</sup> with various environmental and animal right activists in a large northeastern city. My only criterion for selection was that interviewees participated in some sort of environmental or animal rights motivated activism (i.e. protest/demonstration, lobbying, etc.). The activists were initially recruited from meet-up.com (e-mail listservs, related postings) and through various organizational websites. From there, a snowball or chain sample was activated; in other words, I asked one participant for their ideas on another suitable participant and then that interviewee for another interviewee and so on until the final set of interviews were obtained. Finding an initial informant was difficult as many activists were concerned with the consequences of even seemingly peaceful activity<sup>9</sup>. However, nearly every participant that replied to our posting or request for an interview followed through by attending and remained for all questions. I also relied on Fontana and Frey’s (1998) suggestions for gaining access and trust: understanding language, presentation, and establishing rapport. For instance, I was careful to dress

---

<sup>8</sup> It should be noted that around 50% of the interviews were conducted in a conference room of a terrorism research center. This may have unduly influenced certain respondents to underreport their criminal involvement.

<sup>9</sup> For example, one participant told me that their activities primarily involved handing out vegan literature, yet the FBI had been to their house twice for questioning.

in environmental/animal friendly attire (no fur or leather) and I made sure to connect with the participants on a personal level before beginning the interview and during the introductory questions. However, the environmental and animal rights movement remains a difficult group of people to gain entry to, particularly the more radical contingent. I should acknowledge that the conclusions I draw from these interviews are limited by my sampling method and selection criteria, which resulted in a primarily law-abiding group without extensive criminal participation in support of environmental or animal rights causes. Nevertheless, 8 of my 25 participants admitted in interviews to having a criminal record associated with their participation in the movement, but mainly from low-level offenses like trespassing.

All in all, the sample was composed of a good balance<sup>10</sup> of both environmental and animal rights activists and both men and women, but was predominately young (mostly between the ages of 18-25, but as old as 65), educated (nearly all respondents were in college or held a bachelor's degree), and white. Because my sampling methods were yielding young participants, I oversampled older interviewees for the last three months of the collection effort. About 3/5 of the sample was affiliated with mainstream environmental or animal rights organizations<sup>11</sup>.

I also examined a different sort of participant for comparison purposes. This participant was one that had been highly active in the movement, but had become extremely disillusioned with its principles and was at the other end of the continuum

---

<sup>10</sup> These characteristics of the sample (i.e. gender, age) were not collected systematically. Once again, the sample was not collected randomly so may not be representative of the larger population.

<sup>11</sup> These are not disclosed because of privacy reasons.

in regards to ideology. Despite the change in beliefs, their motivations were similar to others in the sample in regards to rational decision-making.

### Procedures

Appendix 1.1 is the consent form with the questions I asked of all participants. I was influenced by Liddick's (2006) questionnaire when choosing my introductory questions. For the remainder of the interview, I chose questions that I felt were general enough to start the participant talking and that left room for me to ask additional questions. Therefore, the interviews were face-to-face and semi-structured<sup>12</sup>, as I asked a series of prescribed questions, but then followed-up with questions when I wanted participants to clarify or expand on specific points that were raised. Interviews were taped and then transcribed. Due to a lack of funding, no financial incentive was given to the participants.

As for other qualitative methods, pre-coded surveys and questionnaires, although useful in other research venues, do not allow researchers to explore new directions and information, beyond that known when the original questionnaire was constructed. Moreover, pure participant observation without full disclosure in this context raised major ethical issues. Ethnography, ethnographic methods, and nonparticipant observation would provide a rich picture of the lives of these activists, but the dynamic nature of the groups and of the sites renders such an analysis nearly impossible. For instance, in preliminary interviews I learned that participants often become disillusioned with the movement at times limiting their participation. More

---

<sup>12</sup> Fontana and Frey (1998) explain the difference between structured and unstructured interviewing: "The former aims at capturing precise data of a codeable nature in order to explain behavior within preestablished categories, whereas the latter is used in an attempt to understand the complex behavior of members of society without imposing any a priori categorization that may limit the field of inquiry" (p. 56).

specifically, one participant told me that being involved in what he termed a “losing cause” was often frustrating enough for him to become disengaged for months at a time.

### Eco-Incidents Database

I developed the Eco-Incidents Database (EID) from two primary sources: (1) the Global Terrorism Database for terrorism cases and, (2) the Foundation for Biomedical Research Illegal Incidents Chronology for all criminal cases. I will describe both sources below. I also explain the process that was used to extract and assess cases for inclusion in the EID.

### Global Terrorism Database

The Global Terrorism Database (GTD) is the most comprehensive unclassified database on terrorism that exists; information on over 80,000 domestic and international incidents has been collected and released covering the years 1970 to 2008. Incident sources include wire services, domestic and foreign newspapers, and U.S. State Department reports. To be incorporated into the GTD, the event must be intentional, must involve violence or the threat of violence, and must be committed by sub-national actors (Global Terrorism Database Codebook, 2009). In addition, the incident must include two of the following three criteria<sup>13</sup>: (1) a political, economic, religious, or social goal, (2) an objective to coerce, intimidate, or convey a message to a larger audience, and/or, (3) action outside of international humanitarian law (Global Terrorism Database Codebook, 2009). The cases can then be selected based on

---

<sup>13</sup> This was done retroactively for cases pre-1998. It should also be noted that the pre-1998 data was collected by a separate entity than the 1998-2008 data.



whether they satisfy each of these criteria. For the purpose of this investigation, I chose cases that met at least two of the three criteria.

The GTD contains information on more than 120 variables including the date, city, country, target, weapon, number of fatalities, number of injuries, and additional information if the incident was a kidnapping or hijacking. Consequently, the data amassed by the GTD provide a rich picture of terrorism and incident characteristics. From the GTD, I created a subsample of incidents from those events with solely an ecological and/or animal rights based motivation that occurred within the United States between 1970 and 2007. The sample of cases was primarily compiled by searching the U.S. cases based on groups identified from secondary sources (Liddick, 2006, U.S. Department of Justice and U.S. Department of Agriculture, 1993). I also conducted a comments/summary search of key terms (“animal,” “ecology,” “earth,” and “environment”) in order to capture those events not tied to a group. In the end, I included 87 GTD incidents from the years 1970 to 2007.

#### Foundation for Biomedical Research

The Global Terrorism Database, while the most comprehensive of existing terrorism datasets, was insufficient to study the research questions as a standalone source. This is because much of the activity of interest to this particular investigation did not fit the definition or the criterion of terrorism as defined by the GTD. Specifically, the GTD does not include criminal incidents unless they also qualify as terrorist incidents. Thus, other data sources were sought out to supplement the 87 terrorist incidents in the GTD. Through identifying and evaluating a series of open source chronologies, the broadest of them, that which was collected by the

Foundation for Biomedical Research, was chosen as the main supplementary data source.

The Foundation for Biomedical Research (FBR) collects incidents on all criminal activities conducted by members of radical eco-groups in the United States and has amassed a chronology covering the years 1981 through the present. The data are publicly available on the foundation's website and are compiled primarily through U.S. media sources, which the foundation checks regularly for incidents perpetrated in the name of environmental or animal rights, although group communiqués are also utilized. Despite the fact that the FBR's chronology is incredibly rich and covers the main variables of interest to this dissertation, it could not be taken on face value. First and foremost, the foundation takes a partisan position in the battle against environmental and animal rights extremists. In fact, the Foundation for Biomedical Research has served as a strong lobby against such groups through their formation of the Animal Enterprise Protection Coalition and support for the Animal Enterprise Terrorism Act ([www.nabr.org/animal activism](http://www.nabr.org/animal_activism), accessed May 15, 2009). Second, the use of sources like group communiqués for incidents can be questionable. In fact, members of ALF and ELF have been known to claim responsibility for acts that they either had nothing to do with or were never committed in the first place as evident from the FBR's own data set<sup>14</sup>.

For these reasons, efforts were made to independently verify all sources on the FBR's chronology. I was able to authenticate the majority of case sources by conducting online searches; those cases that were not confirmed through the source

---

<sup>14</sup> For instance, one case describes an animal rights activist calling the police to say damage was done, only for the police follow up to find no such damage.

listed or another open source were primarily low-level incidents like the spray-painting of a building. The FBR incidents were also recoded so that they matched up with the GTD's coding schema and were checked against the GTD cases to avoid duplication (based on fields such as date, location, and perpetrator).

### Supplemental Chronologies

The unification of the GTD cases with the FBR chronology created the most inclusive data set on crime perpetrated by members of environmental and animal rights groups in existence, hereafter referred to as the Eco-Incidents Database (EID). However, to further the EID's validity and to add to the pre-1981 criminal cases not included in the FBR chronology, a number of other open source chronologies were examined as shown in Table 3.1. The Arnold Chronology is taken from Ron Arnold's (1997) book *Ecoterror*, while the Anti-Defamation League, Fur Commission, NAIA (National Alliance for Animals), and the Southern Poverty Law Center include incidents collected from news sources on their respective websites. The *Seattle Times* chronology is from an article published in 2006, listing their source as the Federal Bureau of Investigation. The United States Department of Agriculture in conjunction with the Department of Justice (1993) and the Department of Homeland Security (2008) have also produced reports with chronologies. The Leader and Probst (from their 2005 article) and the Hewitt Chronologies (from *Political Violence and Terrorism in Modern America: A Chronology*), along with events from a Smith and Damphousse (2009) article, were also examined.

Considering once again that some of these authors (Ron Arnold has often publicly spoke out against these groups) and organizations (for example, the Fur

Commission has an obvious stake in the debate) may have an investment in the issue, an attempt was made to independently verify the incident through another open source if established as a unique case. In other words, every incident was checked for a secondary news source. However, due to the nature of these cases (spray-painting a wall will not typically come to the attention of even a local newspaper), I was only able to verify 30% of the cases. If contradictory information was discovered from a news source (i.e. different damage amount), I took information from the one with the later date assuming that this coincides with additional time for news sources to verify information.

In the end, I checked 1500 incidents from various sources for inclusion in the EID regardless of a secondary source, which resulted in 1056 unique incidents after removing duplicates. In order to eliminate duplicates, I checked the date, perpetrator, and location and removed the incident based on these criteria if it was not one of multiple incidents (often designated in the summary as one of many attacks on the same day related to each other but at different locations).

Table 3.2 displays the descriptive statistics for the primary variables collected for the EID. Of the 1056 incidents from 1970 through 2007, 91% were successful attacks. This suggests that criminal events perpetrated by members of radical eco-groups often take place before law enforcement can intervene. However, this variable is probably skewed in that foiled or unsuccessful attacks (i.e. a bomb that does not detonate) are less likely to come to the attention of media and thus be found in open sources.

Interestingly, and despite all the attention from federal and state law enforcement, only 1 incident resulted in a fatality. On February 8, 1990, Dr. Hiram Kitchen, the Dean of the Veterinary School of the University of Tennessee, was shot and killed in his driveway. One month prior, there were several threats by animal rights groups to kill one veterinary dean per month for 12 months, although no one was ever charged with the murder. The incident drew nationwide publicity as police issued an alert to all university officials prior to and subsequent to the attack.

The number of injuries caused by environmental and animal right extremists is also extremely low. In total, 8 incidents resulted in 1 injury and 1 incident was responsible for 2 injuries. The most noteworthy of these incidents occurred on May 8, 1987, when George Alexander, a logger, was severely injured by a tree-spike. As previously discussed, this event was the impetus for the tree-spiking clause added to the Anti-Drug Abuse Act. Judy Bari, a prominent leader of Earth First! noted in the *Albion Monitor* that, “When George Alexander was nearly decapitated working a shift at the Cloverdale mill, I was just getting interested in Earth First! and it kind of backed me off, because of this tree-spiking thing” (<http://www.albionmonitor.com/bari/jbint-14.html>, Accessed June 7, 2010). Bari was later behind a larger nonviolent movement that publicly renounced tree-spiking as a tactic through a partnership with loggers.

Another interesting descriptive result is that members of radical eco-groups rarely use weapons. According to Table 3.2, only 19% of the cases are associated with a weapon. These incidents most often involved the use of an incendiary. However, the other popular weapon of choice was the sabotaging of equipment (for

example, the pouring of sugar in a gas tank of a bulldozer). Around 12% of the incidents are connected with the use of either one of these weapons. Eleven attacks involved the use of a biological or chemical weapon. Perhaps the most interesting of these events occurred on November 23, 1997, when an animal rights group known as the Justice Department contaminated turkeys with a lethal substance in several supermarkets. However, this attack resulted in no known deaths or illnesses.

The most difficult variable to code in the data was the distinction between terrorism and ordinary crime. Using the guidelines set up by the Global Terrorism Database, I was able to identify 59% of the events in the EID as meeting the mandatory conditions (intentional, involves violence or the threat of violence, and committed by sub-national actors) and two of the three criteria for inclusion as a terrorist attack (a political, economic, religious, or social goal, an objective to coerce, intimidate, or conveys a message to a larger audience, and/or, action outside of international humanitarian law). The most complicated decision-making involved the GTD's mandatory factors regarding violence or the threat of violence. As shown in Table 3.2, incidents that targeted people (19% of the data) were much more clearly defined as terrorism. However, I was often forced to deliberate on how much threatened or actual violence is intrinsic to property crimes. As a whole, I distinguished such crime as terrorism when the damage was extensive or irreversible. Thus, this distinction defined terrorism as everything from the releasing of animals to the setting of an animal-testing facility on fire. Most of the events classified as terrorism in the EID took the form of a facility or infrastructure attack (85%), where the target was primarily businesses (78%). This explains why I considered a majority

of attacks in the EID to be terrorism, but so few were associated with traditional conceptualizations of violence. In other words, to an overwhelming degree, members of radical eco-groups in the United States principally look to obtain their goals through damaging the physical structure of a business rather than harming the actual people working for such a business.

Although violence and weapon use was uncommon in the EID, damage was very widespread. As Table 3.2 demonstrates, almost 70% of events in the EID involved some sort of damage, although the extent of this damage is largely unknown. Only 22% of the incidents involving damage listed a specific monetary amount. Of the incidents where a damage amount was given, the average loss was \$830,691, with a total of \$193,551,024. The EID incident associated with the most damage is the aforementioned Environmental Liberation Front arson of a condominium complex in San Diego, resulting in an estimated loss of 50 million dollars. Events like this one may explain why so much attention has been paid to these groups by federal and local law enforcement; that is, while these extremists appear not to be a major violent threat, they do seem to one that can be destructive of property.

### *Analyses and Variables*

In the following section, I describe each analysis (along with detailing the independent and dependent variables for the quantitative questions), organized by research question and related hypotheses. Appendix 1.2 is the codebook for the EID with the originally collected variable definitions. Tables 3.3-3.7 list the descriptive

statistics for all incidents, terrorist incidents, damage incidents, animal-only incidents, and environmental-only incidents involved in the analysis.

Question 1: Are those who are motivated by an environmental and/or animal rights ideology sensitive to considerations of legal sanctions and moral evaluations in their cost-benefit analyses?

My first research question explores how appropriate the rational choice framework is in explaining the behavior of those motivated by an environmental and/or animal rights ideology. I use my qualitative data to pinpoint whether these activists weigh costs and benefits and if they act based on expected utility. Based on the aforementioned research regarding the appropriateness of the rational choice perspective in explaining terrorism and on the philosophical underpinnings of these actors, I expect considerations of both legal sanctions and moral evaluations to affect their decision-making. Consequentially, my first hypothesis is:

H1: Those who are motivated by an environmental and/or animal rights ideology are sensitive to considerations of both legal sanctions and moral evaluations when contemplating illegal behavior.



All in all, it is necessary to establish that activists consider the legal and moral ramifications from a criminal and even terrorist act in their decision-making on a micro-level, before I quantitatively examine their activity on a macro-level. However, I do acknowledge that my sample is not random and as previously recognized, may not represent the more radical contingent of the movement. Therefore, this hypothesis cannot be formally tested per se, but allows a framework for gaining insight into the motivations of activists.

Question 2: How effective has recent U.S. federal legislation been in decreasing the criminal conduct of members of radical environmental and animal rights groups?

My second research question focuses on the role of legal sanctions, particularly three federal sentencing acts associated with severe penalties, in deterring the criminal conduct of members of radical eco-groups. Deterrence theory will be supported if these sentencing acts are associated with decreases in the total number of and those incidents considered to be serious (terrorist and involving damage). I use these three outcomes because even if the legislation is written for a specific behavior (i.e. Anti-Drug Abuse Act for tree-spiking, Animal Enterprise Protection Act for all criminal acts against animal enterprises), it could also have a spillover effect to other illegal activity. For instance, Smith (2008) argues that the Anti-Drug Abuse Act had implications beyond tree-spiking due to the first use of the term “eco-terrorism” in a congressional setting and the overall movement towards criminalizing these behaviors. Therefore, in response to a movement toward greater enforcement, the perceived costs of illegal conduct could have increased for all members of radical environmental and animal rights groups, and especially in regards to serious

incidents. For these reasons, it is important to look at total incidents and those considered serious (involving damage or considered terrorism) as a starting point.

Thus, my hypotheses are:

H2a: U.S. federal sentencing legislation will decrease the number of total incidents and the hazard of a new incident perpetrated by members of radical environmental and animal rights groups.

H2b: U.S. federal sentencing legislation will decrease the number of terrorist and damage incidents and the hazard of a new terrorist and damage incident perpetrated by members of radical environmental and animal rights groups.

Although spillover effects are a possibility, the legislation should have the most influence on the behaviors it was designed to control. In other words, ADA should decrease environmentally motivated attacks, especially tree-spiking<sup>15</sup>. On the other hand, AEPA and AETA should influence animal rights attacks more than other incidents. In addition, it is possible that a decrease in incidents perpetrated in the name of the environment led to an increase in animal rights motivated attacks. It is important to check for these types of substitution effects. Therefore, my additional hypotheses are:

H2c: Compared to acts committed in the name of other eco-ideologies<sup>16</sup>, the number of and the hazard of a new incident perpetrated for the environment will decrease following the implementation of ADA.

H2d: Compared to acts committed in the name of other eco-ideologies, the number of and the hazard of a new incident perpetrated for animal rights will decrease following the implementation of AEPA and AETA.

In summary, I evaluate the relationship between the legislation of interest and the total, terrorist, damage, environment-only, and animal rights-only activity

---

<sup>15</sup> Due to the small number of tree-spiking attacks in the EID, I cannot analyze this as an outcome in the time-series and series-hazard analyses. However, of the 31 tree-spiking attacks, 28 occurred after the implementation of the law suggesting it was ineffective.

<sup>16</sup> The four categories are animal motivated, environment motivated, multiple ideologies, and unknown.

perpetrated by environmental and animal rights extremists before and after the legislation was enacted.

### Analyses

In order to evaluate these relationships, I use both (1) interrupted time-series models to determine a change in the frequency of attacks and, (2) series hazard models to ascertain any effect on the time between attacks. The former is a strategy that has frequently been employed to study the effect of interventions and is valuable when research seeks to evaluate the outcome of such interventions on a dependent variable over time.

Interrupted time-series analysis, unlike ordinary least-squares regression, addresses the temporally-dependent “noise” inherent to this type of data (McDowall et al., 1980). Sources of dependency can include a trend in the data (a steady increase or decrease over the entire series) and seasonality (i.e. a decrease in attacks during winter months when people spend more time at home). In addition, adjacent errors may be correlated in time-sensitive data, where each observation may be related to the previous observation. Thus, it is imperative to ensure a stationary trend before conducting any analysis. I test for stationary trends with the Dickey-Fuller test statistic and find no evidence of a unit root. Therefore, I can now estimate changes in the series that are due to the interventions of interest rather than resulting from a trend in the data.

I use an Autoregressive Integrated Moving Average (ARIMA) model to adjust for systematic noise (McDowall et al., 1980). When the control variable for data source is added, the models are referred to as ARMAX (Autoregressive Moving

Average with Exogenous Inputs). As detailed in the next section, this variable measures the count of sources over time.

First and foremost, I must identify the model's structural parameters (p=autoregression, d=integration, and q=moving average). The first parameter, p, refers to the number of prior observations used to estimate the current observation and addresses the correlation of the error terms (McDowall et al., 1980). An ARIMA (1,0,0), also referred to as the first order autoregressive process, is demonstrated in Equation (1).

$$y_t = \Phi_1 y_{t-1} + \varepsilon_t \quad (1)$$

Here,  $\Phi_1$  is the correlation between the current and previous value of  $y$  (Dugan, 2009). With higher orders of the autoregressive process ( $p > 1$ ), previous lags have a direct relationship with the current value of  $y$  (Dugan, 2009).

The second parameter, d, illustrates the process of differencing to create stationary models (no trend or drift), where random shocks have an expected value not different from zero. As noted above and since my test for stationary yielded no unit root, my analyses will not be involved in the differencing procedure.

The third parameter, q, denotes the number of moving average formations in the series and tackles the persistence of random shocks from one observation to the next. An ARIMA (0,0,1), also known as the first order moving average process, is demonstrated in Equation (2).

$$y_t = \theta_1 \varepsilon_t + \varepsilon_{t-1} \quad (2)$$

Here,  $y_t$  is a product of both the current shock,  $\varepsilon_t$ , and the preceding shock  $\varepsilon_{t-1}$  (Dugan, 2009). Within this model, correlations beyond the first lag drop to zero as

demonstrated by the significance of the first correlation in the autocorrelation function.

Once I estimate the parameters of the ARMAX model, I can examine the effect of interventions, through what McDowall and colleagues (1980) term an “impact assessment” in regards to the total, serious, and ideological-specific number of incidents. An intervention component is added to this already specified noise model, allowing for three distinct effects to be adequately tested: abrupt and temporary, gradual and permanent, and abrupt and permanent. It is possible that the legislation resulted in any of these outcomes. For instance, the legislation could have deterred members of radical eco-groups immediately after it was enacted, but this effect may have been short-lived as extremists forget about the new legislation and associated penalties or decide motivations for participating in criminality outweighs that of any possible consequences. Following the suggestions of McDowall and colleagues (1980), I first model interventions with this type of abrupt, temporary change. McDowall et al. (1980) recommends starting here due to the implications that can be derived from the significance and magnitude of the slope. Equation (3) represents this effect:

$$Y_t = \delta Y_{t-1} + \omega I_t + \varepsilon \quad (3)$$

The  $\omega I_t$  term represents the intervention component, where 1 indicates that the legislation has been enacted. The  $\delta$  term is used to symbolize the slope of the change as a result of the intervention and  $\varepsilon$  designates noise in the model. Due to the fact that there is no theoretical guidance in determining what constitutes a temporary effect, I

employ a sensitivity analysis testing the impact of a 1, 2, and 3 quarter effect, along with a 1, 2, and 4<sup>17</sup> month effect.

It is also possible that the legislation took time to be publicized and that it forever changed the cost-benefit analyses of extremists and consequentially, the amount and kind of illegal activity perpetrated by them. McDowall and colleagues (1980) assert that if the slopes ( $\delta$ , when modeling the abrupt, temporary effects) are near one, then the effects are likely permanent. Equation (4) represents this type of gradual, permanent effect with the same components as in Equation (3):

$$Y_t = \delta Y_{t-1} + \omega I_{t+} + \varepsilon \quad (4)$$

Finally, it could also be that the changes were indeed permanent, but that the impact was immediate rather than gradual. In other words, members of radical eco-groups were affected soon after the legislation was enacted and remained affected. This effect is indicated if the slopes are small and insignificant when modeling a gradual, permanent effect. Equation 5 demonstrates this model with the removal of the slope component:

$$Y_t = \omega I_{t+} + \varepsilon \quad (5)$$

#### Dependent variables

As noted, in my analysis I examine the outcomes of the aforementioned legislation on all criminal activity and in particular, serious activity measured through terrorist attacks and those involving damage. I also examine the legislation in regards to environment-only and animal-only motivated attacks. Therefore, the dependent variables for the interrupted time-series analysis are number of total attacks, number

---

<sup>17</sup> The 3 month effect is tested in the quarterly analysis.

of terrorist attacks, number of attacks with damage, number of animal-only attacks, and number of environment-only attacks as aggregated to quarters (n=152) and months (n=456). I used both levels of aggregation to see if there were differing effects based on how the data are measured. Since all the dependent variables are highly skewed (given that terrorism is much less common than ordinary crime), I took the natural log of attacks over time after adding 1 to avoid taking the nonexistent log of 0. This procedure normalized the data.

#### Independent variables

The primary independent variables of the second research question regarding the impact of legislation are dummy variables, where 1= the presence of legislation and 0=its absence; here, the Anti-Drug Abuse Act of 1988 (date of November 18, 1988), the Animal Enterprise Protection Act of 1992 (date of August 26, 1992), and the Animal Enterprise Terrorism Act of 2006 (date of November 27, 2006). In the time-series analysis, I lagged these interventions by one quarter and one month to avoid simultaneity bias. In other words, it is possible that the legislation was enacted in response to high criminal conduct, where any decrease in activity would be representative of a natural decline rather than the intervention effect.

As demonstrated in Table 3.1, certain decades received more coverage than others (1970: 2 sources, 1980: 10 sources, 1990: 12 sources, and 2000: 12 sources). In order to reduce the possibility of biases, I include a control for number of data sources in the analyses. This control variable will help guard against the possibility that the data have fewer cases in the 1970s not because there was less activity, but because there are fewer sources for that time period.

To address issues intrinsic to time-series analysis, series hazard models were developed as another tool to measure the role of government interventions on the time between events (Dugan et al., 2005; LaFree et al, 2009). These models estimate the change in an incident's hazard rate from event-specific and other date-specific variables (Dugan, 2009). Equation (6) represents this type of model.

$$h(Y) = \lambda_0 \exp(\beta_1 Interventions + \beta_2 DataSrc + \beta_3 Context) \quad (6)$$

Therefore, the number of days until the next attempt (Y) is a function of an unspecified hazard baseline hazard function ( $\lambda_0$ ) and other independent variables (interventions, data source, and event context) measured at the time of the current attempt (Dugan et al., 2005). In other words, I estimate the effectiveness of legislation on lowering the hazard of another attack, after controlling for other factors that would influence this same hazard.

Using two different methods will reveal results that are robust across estimation strategies. As Dugan (2009) explains, there are several issues with applying time-series models to event data. The author cites the balance between statistical power and stability created through the length of the series and whether the data are organized by year, quarter, month, or week. For instance, if I arrange the 1056 incidents by week to gain statistical power, in turn I create an unstable model characterized by sparse events. However, if I arrange the data by year I can limit this sparseness, but then have a problem with statistical power. Analysts attempt to pick the unit that is a compromise between these two issues, which limits but does not eliminate their impact. As discussed, I choose to examine the data on both a monthly and quarterly unit for the time-series analysis.



Dugan (2009) also describes issues that arise from the aggregation of the data, particularly the potential masking of important distinctions and the treatment of all events in a time unit as the same. This can be a problem, the author argues, when characteristics of one event influence another incident. Theoretically, this could be an issue with the EID. For example, it is possible that the highly publicized harassment of Stephen's, Inc.'s employees and their subsequent selling of Huntingdon Life Science stock had an impact on other extremists; perhaps this successful incident led to more events? However, an unsuccessful bombing of an animal research facility may have had the opposite effect. The problem lies in the fact that time-series analysis treats these events as the same and ignores, "context specific dependence...accounting only for temporal dependence" (Dugan, 2009:5).

Finally, Dugan (2009) contends that time-series analysis can lose variation in the timing of events during a particular span. In fact, "imposing this artificial structure" can lead to, "bias when we ignore the relative timing of events to an intervention within the span" (p. 5). It is likely that there is some clumping of incidents in the EID within a given time period as in a series of Earth Day protests that become criminal; a temporal distribution that is treated the same as those that are evenly disbursed. There is also an issue with short-lived intervention effects as could be the case with some of the more high-profile legislation. In fact, in lagging the intervention to avoid simultaneity bias, I can miss an effect that only lasted a couple of weeks. All in all, the aforementioned limitations of time-series analysis can be addressed through series hazard modeling because, "unlike time-series, it relies on the

time between activities instead of artificially aggregating the activities to multiple time periods” (Dugan, 2009:7).

#### Dependent variables

The dependent variables for the series hazard modeling are days until next attack (average of 14 days), next terrorist attack (average of 23 days), next attack involving damage (average of 19 days), next environmental attack (average of 25 days), and next animal-rights attack (54 days).

Because the time between events is the dependent variable, more than one event can have the same value for its dependent variable. This is referred to as tied data. Since the events really did not occur at the exact same time, I need to estimate the ordering of them. I employ the exact marginal method in my analysis that accounts for all possible orderings.

Another issue occurs when automatically coding the dependent variable as the time until the next event when the next event is on the same day. This produces zero days between events, when it should really be the time until the next unique day. Therefore, I recode time in these situations to be the days after the current day until the next incident for all events that occur on the same day. Therefore, if there are 2 attacks on February 3<sup>rd</sup> and the next attack occurs February 7<sup>th</sup>, those first 2 attacks will both reflect a time of four days.

#### Independent variables

For the series hazard model, I measure the intervention for one year and conduct sensitivity analyses with two different end dates to see if this changes the substantive results. In other words, I examine the interventions over 6 and 18 months

to see if the interventions have a shorter-lived or more extensive impact than that of 12 months. In both analyses, I include a count of the number of data sources available over time. As noted in the data section, I was able to locate more secondary sources for the more recent years covered in the data set so it is important to include a count of how many sources I have for a given day. The average number of data sources in the EID was 9.

Following Dugan and colleagues (2005) and LaFree et al. (2009), I also incorporate independent variables measuring last incident attempt (number of days since the last incident), success density<sup>18</sup> (proportion of current and two previous incidents that were successful over the number of months spanning the three events), along with monthly count (controls for any trend in the overall hazard of events over time) in the series hazard model. It is probable that successful events that occur close together would increase the law enforcement response, possibly decreasing the hazard of another event (Dugan, 2009). The average days since the last incident are 14 for total, 25 for terrorist, 20 for damage, 26 for animal-only, and 53 for environment-only. On the other hand, a number of successful events may increase the hazard of more attacks when others notice that success. The average success density for total incidents is 80, 65 for terrorist incidents, and 69 for damage incidents. The success density for environment-only incidents was around 54, with animal-only events at 47.

I also include a measure to indicate an animal rights ideology with the first three outcomes (total, terrorist, and damage incidents); attacks perpetrated by members of these groups may be more theatrical and publicized than their

---

<sup>18</sup> As with Dugan et al. (2005), I will also measure success density at 3 incidents as to keep the largest amount of observations and because it makes the most theoretical sense that recent success would be the most influential on the hazard of future incidents.

environmentally motivated counterparts and consequently, could differentially affect the hazard of another attack. For example, ALF has been responsible for high profile incidents like monkey releases from medical research centers. Attacks with an animal rights ideology represented 27% of all attacks and 29% of terrorist and 31% of damage incidents respectively.

Also with the series hazard analysis, I test for interactions with a temporal count as in Dugan (2009). By including an interaction of the intervention coupled with a monthly count variable, I can determine whether the slope of each intervention differs from the overall trend. In other words, the interaction allows for a break in the trend.

Question 3: Are members of radical environmental and animal rights groups deterred by an increase in costs as measured by high profile terrorist attacks?

I also explore the role of context in deterring the criminal conduct of members of radical environmental and animal rights groups. In other words, it is a possibility that environmental and animal rights extremists act not solely based on consideration of formal sanctions, but are also influenced by the occurrence of high profile, perhaps deadly, terrorist attacks. For example, it could be the case that major U.S. terrorist events have changed the context in the same way as the Luxor and Orly incidents did in the societies in which they occurred by increasing the costs of being associated with these acts. As Eidelson and McCauley (2009) have established, this appears to be the case with the Oklahoma City bombing in regards to right-wing ideologies. I investigate the possible influence of two important attacks specifically related to the radical environmental and animal rights movement: the Alexander tree-spiking and

the Kitchen assassination. As previously noted, the former attack resulted in a public outcry against tree-spiking, along with a larger movement towards nonviolence led by Judi Bari in partnership with loggers. The latter event received a great deal of publicity and is associated with the only fatal attack suspected to be committed by a member of a radical eco-group in the United States. The number of death threats received prior to this assassination (to kill one dean per month for 12 months) makes it a pivotal turning point in the movement and one that should be examined after such a threat was carried out.

Both of these events represent important incidents where the context likely changed in response to the harm associated with them; they were events that may have increased the perceived costs of this type of illegal activity. As with the first research question, I start by exploring the role that these events had in decreasing all incidents as spillover effects are possible; in other words, a changing context may affect all activity perpetrated by members of radical environmental and animal rights groups. I then test for the events' impact on serious incidents (considered terrorism or involving damage) to see if the activity at the more destructive end of the spectrum was affected. Therefore, I hypothesize that:

H3a: High profile terrorist attacks will decrease the number of total incidents and the hazard of a new incident perpetrated by members of radical environmental and animal rights groups.

H3b: High profile terrorist attacks will decrease the number of terrorist and damage incidents and the hazard of a new terrorist and damage incident perpetrated by members of radical environmental and animal rights groups.

Once again, and although spillover effects are a possibility, the incidents should have the most influence on the behaviors related to their specific movement. Thus, the Alexander tree-spiking should more readily decrease environmentally motivated

attacks, especially tree-spiking. The Kitchen assassination should influence animal rights attacks more than other incidents. There is also again the possibility of substitution effects; perhaps the Alexander tree-spiking decreased environmental events, but increased animal rights incidents. Therefore, my secondary hypotheses are:

H3c: Compared to acts committed in the name of other eco-ideologies, the number of and the hazard of a new incident perpetrated for the environment will decrease following the Alexander tree-spiking.

H3d: Compared to acts committed in the name of other eco-ideologies, the number of and the hazard of a new incident perpetrated for animal rights will decrease following the Kitchen assassination.

### Analyses

My evaluation of these variables also involves interrupted time-series and series hazard modeling. As with the legal sanctions, it is theoretically possible that the Alexander tree-spiking and the Kitchen assassination had an immediate impact or that it took time for the context to change in response to these events. It is also possible that the impact was either short-lived or permanent; it is best to test for all three effects within the data. Once again, I conduct a sensitivity analysis where a temporary effect is measured through 1, 2, and 3 quarters and 1, 2, and 4 months. The interaction terms in my series hazard analysis will help me to tease out the possibility of different effects.

### Independent variables

The independent variables for the second quantitative analysis will be the Alexander tree-spiking (date of May 8, 1987) and Kitchen assassination (date of

February 8, 1990). Once again, I created dummy variables, where time before the incident = 0 and time after the incident =1.

In the series hazard model, I measure the intervention for one year and conduct sensitivity analyses to determine whether two different end dates matter. I include a count variable measuring the number of data sources over time in both analyses. For the series hazard model, I once again incorporate independent variables measuring last incident attempt, success density, monthly count, an animal rights ideology (for the first three outcomes), and interactions with monthly count. I also examine the events with the legislation to see if the results vary with their inclusion.

### Summary

In this chapter, I documented both the qualitative and quantitative data collection process, identified the three related research questions with their associated hypotheses, described both the time-series and series hazard modeling involved in testing these questions, and illustrated how I measure the variables of interest. In the next chapter, I present the findings from the first research question, which seeks to gauge how appropriate the rational choice framework is in explaining the criminal conduct of members of radical environmental and animal rights groups.

## Chapter 4: Interview Results

In this chapter, I explore the results of the qualitative data in order to discern if and how the rational framework fits into the decision-making of those that ascribe to an environmental and/or animal rights ideology. It is important to establish that activists weigh costs and benefits and act toward expected utility before I quantitatively evaluate macro-level interventions contingent on these assumptions. More specifically, I seek to answer: *Are those who are motivated by an environmental and/or animal rights ideology sensitive to considerations of legal sanctions and moral evaluations in their cost-benefit analyses?* As previously noted, I expect considerations of both legal sanctions and moral evaluations to be important to activist decision-making. I hypothesized that those who are motivated by an environmental and/or animal rights ideology are sensitive to considerations of both legal sanctions and moral evaluations when contemplating illegal behavior. All in all, I discovered support for this hypothesis in my interviews.

### Legal Sanctions

Many of the activists in my sample described legal sanctions as very important to their decision-making. When asked about whether they would participate in different scenarios with legal consequences, several activists said that they would refrain from such behavior. In the case of a great deal of my participants, being arrested was a cost that outweighed any benefits achieved from illegal conduct (i.e. an ecosystem is not developed (benefit) because someone pours sugar in the gas tank of a bulldozer (illegal act), but is arrested (cost)).



I value my freedom too much. I am concerned about legal sanctions (Participant 008).

I'm sure that's affected me in a lot of ways. I'm not sure that piece of legislation, but laws (Participant 013).

In fact, certain activists talked about avoiding those who would risk incarceration to get a point across.

If someone is radical we like to distance ourselves from that. (Organization withheld) members wear going to jail as a badge of honor. But none of us want to go to jail (Participant 001).

Many participants also spoke to legal sanctions in the context of how it would affect their future. In other words, it was not just getting arrested or going to jail that was a deterrent, but rather the future implications of having a record that were costs that once again, outweighed any benefits to illegal activity. These consequences were part of an expected utility framework; that is, activists believed that having a record would be a barrier to future opportunities and thus, acted accordingly.

It just never has been an option for me (getting arrested). It would produce an inability for me to get a job...affect things further down the line. I don't like fur, but I'm never going to chain myself to a fur companies' door (Participant 001).

(Acts of vandalism) would probably be on your record and I would be in trouble with my parents. You might not be able to get certain types of jobs if they saw that you were arrested (Participant 003).

I just don't want to protest and risk arrest, because that may mean risking medical school. I have to take my future into consideration (Participant 006).

The only reason I would really be scared of an action against me would be that it might prevent me from things later in life like applying to a job (Participant 011).

The activists in my sample often said that there were other legitimate avenues to achieving their goals and that illegal activity was often unnecessary. From a rational

choice perspective, the benefits of noncriminal activity outweighed its criminal counterpart in many situations; even those situations that seemed hopeless or at times, insensitive to legal dissent.

Lobbying makes an impression and our leaders realize that issues might not affect us now, but in the future. In law we can counter. Ultimately, the voice and education of the youth can change minds (Participant 006).

Sometimes it (lobbying, petitioning) feels ineffective, but we have to do it. It will help make things better now. It is successful when you talk to people in a respectful, knowledgeable way and present them with what you know and feel about over an issue (Participant 008).

I do not believe in bombing everybody. I do not believe in going out and doing all of these really radical, violent things. We get little bits and pieces of what we want (from lobbying) it is the most effective (activity) that I participate in (Participant 012).

Interestingly, some activists said that they would not do anything illegal themselves, but in a way, admired those that did:

Sometimes I think that what they are doing (radical animal rights groups) is sort of good; they throw paint on ships and do other things to try to get the whales to go away. As long as they aren't doing anything to harm or (anything) super illegal then I guess they are okay (Participant 003).

And to me, I almost commend the activists because they're standing up for what they believe in, even though it's criminal. Maybe that goes against what I said earlier, but they are standing up for what they believe in (Participant 015).

All in all, it would appear that legal sanctions are very important to the cost-benefit analysis of environmental and animal rights activists. To most of my participants, laws were an important consideration in whether they would engage in certain behaviors. Both sanctions from such laws and the expected penalties associated with them (especially regarding employment) were costs that outweighed any benefits of criminal activity. In fact, many activists anticipated sanctions would affect their

future in a negative way and consequently were deterred; this belief highlighted a sort of expected utility in activist decision-making. Participants also spoke to the benefits that could be achieved from noncriminal avenues; lobbying was often cited as an effective way to get problems solved.

Many activists also verbalized similar themes to that described in the work of Wheatley and McCauley (2008) and Dugan et al. (2008). In other words, that a major criminal act, and especially a major terrorist act, would delegitimize the cause and be counterproductive to its goals. From a rational choice perspective, being associated with highly destructive or violent acts was a cost that far outweighed any benefit achieved from illegal conduct.

They (radical groups) are trying to sell that message to all these people and in the process they are using things like scare tactics and I just think that that has had a negative impact on public opinion (Participant 004).

I remember when I started organizing this, a lot of students were like ‘We should camp out there, we should build a tree house, we should get a lot of people, we should raise hell.’ And we had to step back and be like I don’t think that is going to work. I think that is going to embarrass us and we could actually be penalized for that and I think we would take the risk of looking stupid and not looking strategic, not like we thought this out (Participant 004).

Violence is too extreme; it really does threaten any hope to have a trustful relationship and to come to a common ground on something (Participant 005).

Threatening someone is not going to make them more conscious. It is going to make it appear like you are crazy (Participant 006).

We are not going to work against the cause; it is not strategic (Participant 007).

I feel like it (force) discredits the movement as a whole. I believe that in order to be effective there has to be education and diplomacy (Participant 009).

I don’t know that frustrating people has every gotten anyone anywhere. I don’t think that burning down a building makes a point other than that you are kind of crazy (Participant 011).

I haven't really gotten much of a feel of how environmental terrorism has really helped the cause. It just seems like they have been hurting the cause by garnering negative media attention to the movement (Participant 011).

So by being violent to solve violence, it's only going to give a bad impression (Participant 015).

In addition to this lost sense of legitimacy, almost every activist described an internal moral compass of sorts as guiding their decision-making. From the rational choice framework, the moral evaluation of an act was as important, and sometimes more important, than possible legal sanctions. In other words, moral inhibitions both conditioned and were independent of a cost-benefit analysis as in Paternoster and Simpson (1996).

I guess I'm saying that it's the fact that it (illegal activity) goes against my values...that's the big thing (Participant 002).

It is morally wrong to exert excessive force or harm to make a point. You have to try to make others understand, but leave and move on when you meet people who don't get it (Participant 006).

There is a moral boundary that I...that tells me what is going too far and what is not going too far. I'm just pre-destined to participate in behavior that is legal and morally right (Participant 011).

Several participants also described illegal behavior, especially forceful and violent behavior, as being hypocritical when juxtaposed to their overall message of valuing human life.

99.9% of people in the groups are pacifists or hippies...or are into the metaphysical, mind-body-spirit thing...and have jobs where they are working for something they believe in (Participant 001).

Animal rights is such a fundamentally nonviolent movement or it should be...the thing is it is all based on you don't need to be violent towards other creatures and if you don't need to be then it's wrong as far as I am concerned. So using violence...using violence is just...inconsistent (Participant 002).

I would never get violent. I would never push someone. I don't want to hurt anyone in the process. Like hateful letters are hurtful. You have to practice what you preach (Participant 004).

We believe in principles of nonviolence; in nonviolent direct action. We follow the teachings of Martin Luther King. We can prevent something from happening. We also follow Quaker principles of bearing witness and passive resistance. You have to be there in the zone of exposure and insist on being involved (Participant 007).

I believe in nonviolent action. We should be peaceful and be guided by our ethics (Participant 008).

As a whole, the environmental and animal rights activists in my sample are rational decision-makers who are guided by moral inhibitions. To some participants, these inhibitions were more important than possible legal consequences, while others had difficulty ranking one above the other and argued for the importance of both in decision-making. Many also spoke to the theme that illegal activity would harm the legitimacy of the cause by being an immoral alternative. However, it should be noted that this sample is not necessarily representative of the more radical contingent of these groups; so while activists in my sample consider legal sanctions and morality, I cannot assume that those on the terrorist end of the spectrum do as well.

In summary, consistent with my first hypothesis, those who are motivated by an environmental and/or animal rights ideology express opinions that are generally consistent with a model of rational actors who consider both legal sanctions and moral evaluations when contemplating illegal behavior. In the next chapter, I quantitatively evaluate the impact of several key legal sanctions on combating total criminal activity, serious criminal activity, and ideology-specific criminal activity perpetrated by members of these groups.

## Chapter 5: Legal Sanction Results

In this chapter, I report the results of the second research question, *How effective has recent U.S. federal legislation been in decreasing the criminal activities of radical environmental and animal rights groups?* First, I display the descriptive trends over time in respect to the legal interventions. Next, I present the findings from the time-series models. Finally, I discuss the series hazard models. These analyses will help me to discern whether the following four hypotheses are validated:

H2a: U.S. federal sentencing legislation will decrease the number of total incidents and the hazard of a new incident perpetrated by members of radical environmental and animal rights groups.

H2b: U.S. federal sentencing legislation will decrease the number of terrorist and damage incidents and the hazard of a new terrorist and damage incident perpetrated by members of radical environmental and animal rights groups.

H2c: Compared to acts committed in the name of other eco-ideologies, the number of and the hazard of a new incident perpetrated for the environment will decrease following the implementation of ADA.

H2d: Compared to acts committed in the name of other eco-ideologies, the number of and the hazard of a new incident perpetrated for animal rights will decrease following the implementation of AEPA and AETA.

### Trends over Time

Figures 5.1.-5.4 demonstrate the yearly trends of all incidents (n=1056), terrorist incidents (n=622), incidents involving property damage (n=731), and incidents disaggregated by ideology (animal-only incidents (n=491)), and environment-only incidents (n=288)), along with the legal interventions of interest. Figure 5.1 shows a peak of 159 incidents in 2001, with a steady decrease thereafter. In fact, total incidents decreased 82% from 2001 to 2007. Terrorist attacks and attacks involving damage exhibit similar trends and peaks to that of total incidents. Figure 5.2 also shows a peak in 2001 with 93 terrorist incidents and a decrease of 78% from 2001 to 2007. Likewise, Figure 5.3 illustrates a peak in 2001 with 114

incidents involving damage and a 77% decrease to the end of the trend. When disaggregated by ideology as shown in Figure 5.4, the environment-only incidents best mirror these trends, especially in regards to the major peak of incidents in 2001 at 79 incidents. For animal-only incidents, there are several peaks at 45 events in addition to 2001 including the years 2003 and 2005.

All five figures exhibit the fewest number of incidents in the early 1970s. This may be because the highly active group of SHAC was not even formed until 1998, and the more prominent groups like ELF and ALF have birth dates of anywhere from the mid-70s to the late-80s depending upon the source. I do need to keep in mind the possibility that these low numbers are due to the lighter coverage of the 1970s and thus will control for it in the analyses.

In 1988, the year of the Anti-Drug Abuse Act, there were 29 total, 17 terrorist, 22 damage, 10 animal-only, and 4 environment-only incidents. The following year yielded 40 total, 25 terrorist, 28 damage, 13 animal-only, and 8 environment-only events. In 1992, the year that the Animal Enterprise Protection Act was enacted, members of radical environmental and animal rights groups committed 11 total, 6 terrorist and damage, 3 animal-only, and 4 environment-only incidents. 1993 saw an increase of 18, 9, 14, 13, and 2 total, terrorist, damage, animal-only, and environment-only events respectively. In 2006, the Animal Enterprise Terrorism Act became law; the same year that 28 total, 15 terrorist, 19 damage, 13 animal-only, and 5 environment-only acts were committed. The next year witnessed an increase of only 1 total and terrorist incident, but also 7 damage, 4 animal-only incidents and a decrease of 3 environment-only events committed by members of radical eco-groups.

All in all, these overall short-term increases following the legislation do not support the idea that there was a deterrent effect. However, in the next section I conduct a more formal test of the possibility that the Anti-Drug Abuse Act of 1988, the Animal Enterprise Protection Act of 1992, and the Animal Enterprise Terrorism Act of 2006 deterred all illegal, terrorist, damage, animal-only, and environment-only activity perpetrated by radical eco-groups.

### *Time-Series Results*

As previously noted, I first modeled abrupt, temporary effects based on the suggestions of McDowall and colleagues (1980). Once again, and due to the arbitrary nature of determining what constitutes a temporary impact, I tested for a 1, 2, and 3 quarter effect, along with a 1, 2, and 4 month effect. After reviewing the slopes of my various models, I determined that only AEPA's impact on monthly animal-only incidents indicated an abrupt, temporary effect for 2 months. The remainder of combinations had slopes that were positive, near 1, and significant, and consequently signified permanent effects for my interventions of interest. After modeling gradual, permanent effects, two slopes were small and insignificant and therefore suggested abrupt, permanent effects; the Anti-Drug Abuse Act on monthly terrorist and on animal-only attacks.

Tables 5.1-5.5 demonstrate the quarterly results of the ARMAX (1,0,1) modeling of all incidents, terrorist incidents, damage, animal-only, and environment-only incidents without interventions (Model 1), with the Anti-Drug Abuse Act of 1988 (Model 2), with the Animal Enterprise Protection Act of 1992 (Model 3), and



with the Animal Enterprise Terrorism Act of 2006 (Model 4)<sup>19</sup>. In each table, Model 1 represents the base model from which all other models are built as determined from examination of the ACF and PCF. The autoregressive (AR) and the moving average (MA) reach statistical significance validating an ARIMAX (1,0,1) process.

In regards to my first and second hypotheses regarding legislation, if the severe sanctions deterred activity as expected by increasing costs, the coefficients for total incidents and serious (terrorist and damage) should be negative and significant. However, I only find a significant effect in the quarterly results for one piece of legislation (Animal Enterprise Protection Act or AEPA) and it is in the opposite direction than predicted. More precisely, AEPA is associated with a 13%<sup>20</sup> increase in the number of damage incidents ( $Z=2.13$ ,  $p<.05$ ) beyond the initial white noise model. The variable for number of data sources over time is also significant and positive throughout the models, rendering it an important control variable.

The monthly results are similar with one main caveat as shown in Tables 5.6-5.10. As with the quarterly data, AEPA is associated with a 4% increase in the number of damage attacks ( $Z=2.28$ ,  $p<.05$ ). However, AEPA is also related to a 3% increase in both total ( $Z=2.26$ ,  $p<.05$ ) and terrorist attacks ( $Z=2.02$ ,  $p<.05$ ). Once again, the data source variable is also positive and significant in many of the models.

As for my secondary hypotheses regarding the disaggregated outcomes by ideology, only the monthly results yield significant results. Here, AEPA once again had a significant impact. Specifically, AEPA increased ( $Z=1.96$ ,  $p<.05$ ) the number of environment-only attacks by 4%, but did not influence the number of animal-only

---

<sup>19</sup> High correlations between the interventions prohibited an examination of all in one model.

<sup>20</sup> As ascertained from the formula:  $1-(e^{\wedge}\text{coefficient})$ .

incidents. ADA, on the other hand, was responsible for significantly ( $Z=2.76$ ,  $p<.01$ ) increasing the number of animal-only incidents by almost 68%.

All in all, these results are unresponsive of a deterrent effect. It would appear that AEPA is associated with significant increases in illegal activity; however this effect differs by level of aggregation. In addition, the legislation seems to be ineffective at controlling the behavior it was intended to and displacing it to other ideologies (ADA to animal-only and AEPA to environment-only). Before I look further to the mechanisms for explaining AEPA's and ADA's effects, I now turn to a more robust analysis of the data. The next section presents the results obtained from the series hazard models; a method unencumbered by level of aggregation (monthly or quarterly), with controls for the influence of one event on another.

### *Series Hazard Results*<sup>21</sup>

For the series hazard modeling, I estimate five separate models: (1) all incidents perpetrated by members of radical environmental and animal rights groups, (2) only terrorist incidents, (3) only those involving damage, (4) animal-only incidents, and (5) environment-only incidents. Table 5.11 displays these results. As noted in Chapter 3, I tested for interaction effects composed of the intervention and a monthly count of incidents. The only significant interaction was that of the Anti-Drug Abuse Act (ADA) for the first three outcomes. This interaction suggests that ADA yielded around a 10% decrease in the hazard of another attack and serious (terrorist or involving damage attack) per month. In addition to the ADA interaction, AEPA was once again significant, but only in the model with terrorist cases. In fact,

---

<sup>21</sup> As noted in Chapter 3, I ran the analyses with different end dates for the interventions (6 and 18 months respectively), but the substitutive results did not vary substantially.

AEPA is responsible for a 60% decrease in the hazard of another attack of this kind. Interestingly, the Animal Enterprise Terrorism Act (AETA) decreases the hazard of another attack by 45% and another damage attack by 36%, but not another terrorist attack. However, AETA did decrease the hazard of another animal-only attack by about 46% as expected given the target of the legislation. In fact, this piece of legislation was the only one to have an ideologically specific effect of significance and thus support my secondary hypotheses.

All of the control variables were significant in at least one of the models. The number of data sources does significantly increase the hazard of all types of attacks. In addition, when the three most recent attacks are successful and clustered, the hazard of another incident increases significantly. However, the measure for days since last incident is not a factor similar to Dugan et al.'s (2005) findings that contagion appears to function through successful events only. The exception is animal-only attacks, where last incident is a marginally significant influence on the hazard of future attacks. The significance ( $p < .05$ ) of the animal rights motivation indicates that this particular ideology decreases the hazard of all attacks, but not terrorist or damage events. Finally, the significant ( $p < .001$ ) monthly count variable indicates an increasing trend in the hazard of all, terrorist, damage, animal-only, and environment-only attacks.

### *Summary*

All in all, my results varied by method and by level of aggregation. This complicates the answer to my first research question: *How effective has recent U.S. federal legislation been in decreasing the criminal conduct of radical environmental*

*and animal rights groups?* When I examine this question through time-series analysis, my results indicate an increase in illegal activity associated with the Anti-Drug Abuse Act and the Animal Enterprise Protection Act. However, these effects are primarily only marginally significant ( $p < .05$ ) and affect the dependent variables differently depending on level of aggregation. In other words, the quarterly results indicate AEPA significantly increases only the number of damage incidents, while the monthly results reveal an impact on four of the outcomes. In addition, the monthly results also demonstrate ADA's impact on animal-only incidents, perhaps suggesting displacement.

The series hazard model results are more consistent with a deterrence framework and my hypotheses. The Anti-Drug Abuse Act interaction term, the Animal Enterprise Protection Act, and the Animal Enterprise Terrorism Act significantly decrease the hazard of another attack, but the type of attack varies based on the legislation. In other words, ADA decreases the hazard of another attack and serious attack, but AEPA only influences terrorist attacks, while AETA decreases the hazard of all, damage, and the behavior it was aimed at, animal-only incidents. In the next section, I test for the possibility of another deterrence mechanism at work: that of high profile attacks.

## Chapter 6: Terrorist Attack Results

In this chapter, I present the results of my third research question: *Are members of radical environmental and animal rights groups deterred by an increase in costs as measured through high profile terrorist attacks?* I first describe the descriptive trends over time in relation to the Alexander tree-spiking and Kitchen assassination. I then present the results from the time-series analysis. Finally, I discuss the series hazard results. These separate analyses will help me to discern the validity of the following four hypotheses:

H3a: The high profile terrorist attacks will decrease the number of total incidents and the hazard of a new incident perpetrated by members of radical environmental and animal rights groups.

H3b: The high profile terrorist attacks will decrease the number of terrorist and damage incidents and the hazard of a new terrorist and damage incident perpetrated by members of radical environmental and animal rights groups.

H3c: Compared to acts committed in the name of other eco-ideologies, the number of and the hazard of a new incident perpetrated for the environment will decrease following the Alexander tree-spiking.

H3d: Compared to acts committed in the name of other eco-ideologies, the number of and the hazard of a new incident perpetrated for animal rights will decrease following the Kitchen assassination.

### Trends over Time

Figures 6.1-6.4 represent the yearly trends of all incidents (n=1056), terrorist incidents (n=622), incidents involving property damage (n=731), and incidents disaggregated by ideology (animal-only incidents (n=491)), and environment-only incidents (n=288)), along with the moral interventions of interest. As noted in Chapter 5, the number of total incidents peaked with 159 in 2001 and decreased steadily thereafter; 82% from 2001 to 2007. Also as previously discussed, terrorist attacks and attacks involving damage have similar trends and peaks to that of all

incidents with the fewest number occurring in the early 1970s. Environment-only incidents have similar trends, but once again, animal-only incidents have more peaks than solely that of 2001.

In 1987, the year of the Alexander tree-spiking, there were 23 total, 17 terrorist, 19 damage, 8 animal-only, and 10 environment-only incidents. As noted, the following year yielded 29 total, 17 terrorist, 22 damage, 10 animal-only, and 4 environment-only events. In 1990, the year of the Kitchen assassination, members of radical environmental and animal rights groups committed 24 total, 18 terrorist, 11 damage, 4 animal-only, and 7 environment-only incidents. 1991 saw a change to 15 total, 10 terrorist, 8 animal-only, and 2 environment-only events respectively with no change in damage incidents.

From these descriptive patterns, I would expect to see a deterrent effect resulting from the Kitchen assassination, but not more pronounced among animal-only incidents as I hypothesized. On the other hand, the Alexander tree-spiking seemed to increase total activity, but appeared to decrease environment-only incidents. However, in the next section I conduct a more formal test of the possibility that these events deterred all illegal, terrorist, damage, animal-only, and environment-only activity perpetrated by members of radical eco-groups.

### *Time-Series Results*

As in Chapter 4, I first modeled interventions with an abrupt, temporary change. I once again tested for a 1, 2, and 3 quarter effect, along with a 1, 2, and 4 month effect. After reviewing the slopes of my various models, I was able to

determine that all were near 1 and significant, and consequently indicated gradual, permanent effects for my interventions of interest.

Tables 6.1-6.5 demonstrate the quarterly results of the ARMAX (1,0,1) modeling of all incidents, terrorist incidents, damage incidents, animal-only incidents, and environment-only without interventions (Model 1), with the Alexander tree-spiking (Model 2), and with the Kitchen assassination (Model 3)<sup>22</sup>. In each table, Model 1 represents the base model from which all other models are built upon as determined from investigation of the ACF and PCF. The autoregressive (AR) and the moving average (MA) reach statistical significance, once again validating an ARIMA (1,0,1) process.

If these important events changed the moral environment and thus deterred activity, the coefficients should be negative and significant as hypothesized. While I do find a significant effect for the Alexander tree-spiking, it is in a direction opposite of the one I hypothesized, and only for one outcome. Specifically, the Alexander tree-spiking is associated with a 7% increase in the number of damage incidents beyond the initial white noise model.

The monthly results are depicted in Tables 6.6-6.10. Once again, an ARIMAX (1,0,1) was specified for the base model with both the autoregressive (AR) and moving average (MA) components significant further corroborating this process. However, neither of the terrorist events is significant in the monthly models suggesting that these events did not impact the number of total incidents, serious incidents, or ideologically-specific incidents.

---

<sup>22</sup> Once again, high correlations between the interventions prohibited an examination of both in one model.

### Series Hazard Results<sup>23</sup>

For the series hazard modeling, I once again estimate five separate models: (1) all incidents perpetrated by members of radical environmental and animal rights groups, (2) only terrorist incidents, (3) only those involving damage, (4) animal-only, and (5) environment-only. Table 6.11 presents the results. Once again, neither terrorist event had an impact, even throughout all five outcomes.

The control variables behaved similarly in this model to that of the model in Chapter 5. Once again, the number of data sources, success density, and monthly count significantly increased the hazard of another attack. Also, the number of days since the last attack only had an impact on ideologically-specific outcomes. Here an animal rights ideology decreases the hazard of just damage attacks.

To examine whether these results held up with all five interventions in the same model at the same time, I next analyzed the full model for all five outcomes. Table 6.12 shows these findings. As in the models without the legal interventions, neither terrorist event has an impact on the five outcomes of interest. Also similar to the prior model, all significant effects found in the legal-only model remain with the terrorist attacks. The control variables also behave similarly to previous analyses.

### Summary

Unlike the investigation into legal interventions, I only found one significant effect of the high profile attacks from two separate methodologies. In addition, this effect, the Alexander tree-spiking on quarterly damage incidents, is in the opposite

---

<sup>23</sup> As in Chapter 4, I ran the analyses with different end dates for the interventions (6 and 18 months respectively), but the substitutive results did not vary substantially.



direct as hypothesized. It would appear that the simple answer to my third research question, *Are members of radical environmental and animal rights groups deterred by an increase in costs as measured through high profile terrorist attacks*, is no.

Overall, my hypotheses based on this question were unsupported in the analyses. It appears that these particular events, although well-publicized and representative of a changing environment, did not have an impact on total incidents, serious incidents, or those specifically associated with the corresponding ideology.

## Chapter 7: Discussion and Conclusions

*The difference between tying yourself to a tree and pouring sugar in a (gas) tank is that you can get arrested for one of them. At that point I still wouldn't do it. I would see it as lowering myself and there is a moral standard that you adhere to and if I knew that I fought for it...I probably wouldn't go that far (Participant 010).*

The literature on radical environmental and animal rights groups has primarily lacked empirical data, theoretical models, and statistical tests. Much of this literature has focused on the debate surrounding terminology (Vanderheiden, 2005; 2008; Amster, 2006) or on declarations over the amount of threat posed by these groups without robust quantitative findings to support such claims (Eagan, 1996; Liddick, 2006). Although prior work has applied a handful of criminological theories to the activities of these groups (Liddick, 2006; Smith et al., 2009), the research has ignored the most relevant of perspectives; that of rational choice and specifically, deterrence theory. Similarly, while there is some descriptive accounts of the illegal activity perpetrated by radical eco-groups (Department of Homeland Security, 2008), there had been no independent and systematic data collection effort or sophisticated statistical analysis of such activity.

As a whole, objective deterrence research has been largely unresponsive of the role of severe punishments in deterring crime (Tittle, 1969; Kovandvic et al., 2004). Perceptual research on deterrence has exhibited similar themes, where one's perception of a *certain* punishment is a much stronger predictor of intended activity (Erickson et al., 1977; Jensen et al. 1978). One important development from perceptual research on deterrence has suggested that individual characteristics may

explain why some people are deterred and others are not (Grasmick and Bursik, 1990; Nagin and Paternoster, 1993; Nagin and Pogarsky, 2003). One such characteristic, moral inhibitions, has explained differences in sexual assault and white collar offending (Bachman et al., 1992; Paternoster and Simpson, 1996). While there has been some examination of objective measures of deterrence (Lum et al., 2006), there has been no investigation into perceptions, and especially morality in defining those perceptions, in the terrorism literature. One of the most recent advances in this literature, proposed by Bouhana and Wikstrom (2008), has yet to be quantitatively analyzed. However, the ideas set forth in these researchers' conceptualization of the moral environment ties in with the findings of Wheatley and McCauley (2008) and others. In other words, certain catastrophic terrorist events can change the perception of terrorism as a tactic. To date, no investigation has tied these theoretical components into one cohesive argument, nor applied them to the criminal conduct of members of radical environmental and animal rights groups.

While there are some rough estimates of the number of attacks or the amount of damage caused by environmental and animal rights extremists, there has been a lack of independent and systematic collections of these events. Furthermore, the analysis that does exist is primarily descriptive in nature (Liddick, 2006; Department of Homeland Security, 2008) or outside the scope of this investigation due to its focus on pre-incident conduct (Smith et al., 2009). Limited quantitative research has been devoted to assessing the severity of the threat posed by radical eco-groups. A review of the literature yields even less information about the effectiveness of

countermeasures enacted to deal with this threat; information that can be garnered from robust quantitative analyses.

### Summary of Research Findings

This dissertation contributes to both the rational choice and terrorism literatures by addressing the aforementioned conceptual and methodological deficits. I examined whether legal sanctions, morality, both, or neither deters members of radical environmental and animal rights groups. I argued for the importance of a rational choice framework, specifically one that considers severe punishments, the moral evaluation of an act, and the environment in which such an evaluation is made. More specifically, I explored three primary research questions: (1) *Are those who are motivated by an environmental and/or animal rights ideology sensitive to considerations of legal sanctions and moral evaluations in their cost-benefit analyses,* (2) *How effective has recent U.S. federal legislation been in decreasing the criminal activities of radical environmental and animal rights groups and,* (3) *Are members of radical environmental and animal rights groups deterred by an increase in costs as measured through high profile terrorist attacks?*

To address the first of these questions and its related hypothesis, I explored a series of 25 interviews conducted with environmental and animal rights activists from a large, northeastern city. Most of the activists were young (between 18-25), Caucasian, and educated, but balanced in regards to environmental and animal rights motivations and gender. From these interviews, I was able to examine how sensitive activists were to micro-level explanations of rational decision-making.

To answer the second and third research questions, I developed and analyzed a database of criminal conduct committed by environmental and animal rights extremists from 1970 to 2007. This database, known as the EID, is the most extensive collection of the illegal conduct perpetrated by members of radical eco-groups in the United States that has been collected by an independent investigator. In my collection of incidents, I utilized several open sources including the Global Terrorism Database and Foundation for Biomedical Research chronology. In all, I collected a total of 1056 unique U.S. incidents committed by members of radical eco-groups from the years 1970 through 2007. From the descriptive statistics of the data, I was able to conclude that while members of these groups are often involved in conduct that can be considered highly destructive and as fitting the GTD's definition of terrorism, few of the attacks involve physical violence or the threat of such violence.

As for my first research question, *Are those who are motivated by an environmental and/or animal rights ideology sensitive to considerations of legal sanctions and moral evaluations in their cost-benefit analyses*, my findings were consistent with my hypothesis. Many interview participants discussed the consideration of legal sanctions, and especially the possible ramifications from these sanctions, when explaining their individual-level decision-making. They also communicated the importance of gaining benefits from noncriminal avenues, such as lobbying. In addition, many participants referred to the role that illegal conduct, and especially terrorist conduct has on decreasing the legitimacy of the environmental and/or animal rights movement. The concept of moral inhibitions garnered strong

support in my sample; most participants argued that illegal activity was, to them, morally wrong. Thus, to my sample, criminal and especially terrorist activity was often perceived as an immoral alternative. In some cases, the moral evaluations of an act were more important than its potential legal consequences, but many responses indicated themes of consistent with both conceptualization.

In regards to my second research question, *How effective has recent U.S. federal legislation been in decreasing the criminal activities of radical environmental and animal rights groups*, my results depended upon the method employed. My time-series analysis indicates that the Animal Enterprise Protection Act is associated with a gradual and permanent increase in the amount of criminal conduct committed by environmental and animal rights extremists. However, these effects are only marginally significant ( $p < .05$ ) and differ in the quarterly and monthly analyses. In other words, AEPA was associated with a significant increase in the number of damage incidents when the data are aggregated by quarter, while the monthly results demonstrate an impact on four of the outcomes including environment-only attacks. The monthly results also show that ADA increases the number of animal-only incidents; a finding that does not show up in the quarterly analysis.

The series hazard model results are more consistent with my hypotheses and with a deterrence framework. All three pieces of legislation significantly decreased the hazard of another attack, but the type of attack varied based on the legislation. Namely, ADA decreased the hazard of total attacks and serious attacks (terrorist and damage), but AEPA only influenced terrorist incidents. On the other hand, AETA

decreased the hazard of both all, damage, and animal-only incidents. These findings are consistent with the full model outcomes.

The large difference in my findings based on method could be the result of one of two mechanisms at work; the first of which ties back to my discussion of time-series analysis and its weaknesses. My ARMAX models were sensitive to the level of aggregation, especially given the relatively small number of incidents spread over 152 quarters and 456 months. In addition, aggregation could have masked important distinctions, since time-series only deals with temporal and not contextual dependence of incidents. Finally, it is also possible that my ARMAX models treated all events within a quarter or month as the same when there was likely clustering of incidents. For instance, incidents could be linked like in the case of radical Earth Day protests, which all occur on the same day in different cities throughout the country. If the intervention is lagged to avoid simultaneity as I did, time-series analysis can also miss short-lived effects. Although ARIMA is sensitive to these limitations, it was important to undergo both methods due to the fact that (1) it measures a separate outcome than that of series hazard modeling, and (2) prior to this investigation, the conceptual conclusions have remained the same in the handful of studies using both methods.

Another possible explanation for the differences between my two modeling strategies is that the analyses are really measuring two separate outcomes. Time-series looks at the frequency of incidents as the dependent variable, while series hazard examines the time between incidents. Therefore, it is possible that certain interventions increased the number of incidents, but also increased the time between

them. This explanation for the differences certainly convolutes any implications we can draw, particularly those that are policy-orientated.

My third and final research question of interest, *Are members of radical environmental and animal rights groups deterred by an increase in costs as measured through high profile terrorist attacks*, had more straight-forward results. In both the quarterly and monthly time-series results, the Alexander tree-spiking and the Kitchen assassination did not have a significant influence on the number of total, terrorist, or ideologically specific events. However, the former event did significantly increase the number of damage incidents. The series hazard models yielded no significant effects for either terrorist attack. Although these events were well-publicized and consequentially forced groups to redefine the appropriateness of certain tactics (i.e. the public renunciation against tree-spiking), they did not do enough to significantly impact behavior. Perhaps these events did not change the environment as hypothesized because the perceived benefits of criminal activity continued to outweigh the costs, even in increasingly intolerant surroundings.

All in all, I conclude that while the qualitative data indicates activists are sensitive to the costs associated with legal sanctions and the moral evaluations of a given act, their criminal behavior has not been significantly deterred by macro-level terrorist events. This is perhaps a result of the benefits of criminal activity outweighing the costs measured through a general distaste for such behavior. The answer to my second research question is considerably more complicated. The legal interventions appear to increase the frequency of incidents, but decrease the hazard on another incident. This directional difference could be a result of the limitations



inherent to time-series data or simply due to the fact that these methods are measuring disparate outcomes. I tend to lean toward the former mechanism for explaining the discrepancy. In other words, the more robust analysis indicates that the legal interventions decreased illegal activity as theoretically expected.

### Discussion

This study has important conceptual and methodological implications. In regards to the former, environmental and animal rights activists often operate from within a rational choice framework. In other words, activists in my sample utilized a cost-benefit analysis, with crime occurring when the potential rewards outweigh the consequences. The rewards to these activists include everything from laws that protect the environment to a reduction in population growth. In regards to expected utility, my participants perceive that the benefits of illegal activity outweigh its costs when they feel that the cause is worthy enough. Some interviewees acknowledged that they would act criminally if they felt that what they were fighting for was important enough and there were no other alternatives. These decisions were also crime-specific as purported by rational choice; most activists claimed that they would not engage in violent behavior regardless of the reward.

An increase in costs, brought forth by legislative efforts on the federal level in the form of severe punishments, has significantly decreased the hazard, but increased the frequency, of illegal conduct perpetrated by members of radical environmental and animal rights groups. Contrary to the bulk of prior investigations, these findings indicate some support for the role of severe punishments. This unique result could be indicative of the findings of previous research that has argued for the more

“deterable” nature of those that engage in terrorism in that they are composed of a more “deterable” demographic. As LaFree and Ackerman (2009) note, terrorists are more likely to be female and college educated than common criminals. This portrayal is consistent with Liddick’s (2006) sample of animal rights activists. Therefore, severe punishments may be ineffective on the general populace, but not among those with a higher stake in conformity (Sherman et al., 1992; Maxwell et al., 2002). It could also be that similar to Chamlin and Cochran’s (2000) findings regarding the effects of a well-publicized execution on crime rates; that severe punishments have crime-specific effects. Perhaps laws like ADA, AEPA, and AETA only deter more rational and instrumental acts, like the majority of those perpetrated by radical eco-groups. However, these conclusions can only be made if the time-series results are somewhat disregarded (which a case can be made for given the limitations inherent in this methodology). It would seem that these interventions also increased the frequency of incidents after their inception, making any policy implications that much more complex.

My findings regarding the Alexander tree-spiking and Kitchen assassination are inconsistent with Bouhana and Wikstrom’s (2008) situational action theory in that these events did not to change the environment in a way that influenced the frequency or hazard of criminal acts committed by members of radical eco-groups. Given the work of Eidelson and McCauley (2009) regarding the post-Oklahoma City bombing decline in right-wing support, it is not difficult to imagine that these events could have changed the context of certain tactics for members of radical eco-groups in the same way that the Luxor massacre did for Egypt (Wheatley and McCauley, 2008) and

the Orly airport incident did for the decline of prominent terrorist organizations (Dugan et al., 2008). It is possible that the perceived benefits to environmental and animal rights extremists outweighed any costs associated with an increase in immorality after the Alexander tree-spiking and Kitchen assassination.

My participants, however, did argue that criminal activity, and particularly terrorist activity, delegitimized the movement in the same way that specific terrorist events did in the aforementioned research. There is also no mistaking the importance of considering the role of moral inhibitions when examining perceptual deterrence. Consistent with what Bachman and colleagues (1992) argue, activists in my sample, “refrain(ed) from offending not only because they fear the consequences of their action, but because they believe the act to be morally wrong” (p. 346). Therefore, an activist’s internalized level of morality affects their individual cost-benefit analysis of a particular act. Given the philosophical underpinnings of environmental and animal rights activists, where all life is equally valued, this finding is not a surprise. However, unlike Paternoster and Simpson (1996), I did not find that moral evaluations outweighed legal sanctions in most cases; rather, participants voiced themes of both legal sanctions and moral inhibitions when describing decisions about their behavior and did not rank one above the other.

Perhaps the policy implications of this study are its most important contribution. For the first time, we have a database of criminal conduct perpetrated by radical environmental and animal rights groups. This database, the EID, is the largest to be collected by an independent scholar, using only open and unclassified sources. From just examining the descriptive patterns of the EID, policy-makers can

see the primarily nonviolent threat posed by radical eco-groups. However, the large amount of property damage caused by these groups indicates the true nature of the threat that they present: an economic one. Therefore, entities like the FBI need to reassess the time and resources spent on combating environmental and animal rights extremists. Certainly members of these groups cannot be the top domestic threat as they have been called so many times before, especially given the past and future potential for violence that other types of terrorist groups demonstrate.

This investigation also touched on the role that countermeasures have played in the decrease in illegal activity perpetrated by members of radical eco-groups. As noted, prior literature has been less than supportive of the role of both severe punishments and countermeasures in deterring crime and terrorism respectively. However, this investigation demonstrates that both can be effective at increasing the time between incidents, perhaps given the more “deterable” demographic of members of radical eco-groups. This conclusion, once again, is limited by the knowledge that the sanctions in question also increased the frequency of incidents (although ascertained from a less robust methodology).

For the methodological implications, it is important not to gloss over the fact that the direction of the findings is conditional on the type of strategy employed. In this dissertation, series hazard modeling produced different results to that of the time-series analysis. Time-series analysis is sensitive to both the level of aggregation and to the influence that events can have on each other. As a result, the findings of the series hazard analyses often inspire a greater level of confidence. Nonetheless, these methods do examine different outcomes and it is very possible that the different

results are indicative of what they are measuring rather than the superiority of one method over another. All in all, research should continue to explore the differences between time-series and series hazard modeling strategies. Robust investigations should employ both analyses to see if there are conceptual differences in findings similar to this investigation. Furthermore, prior investigations should be revisited to see if findings differ under series hazard analysis.

### *Limitations and Suggestions for Future Research*

Although I made a concerted effort to control for spurious findings, this study is not without its own set of limitations. First and foremost, and despite a three-year data collection effort, the EID is likely flawed. In having to rely on open sources, I was able to only collect the more publicly available incidents. It is probable that the less serious incidents (like the spray-painting of a wall with the letters “ALF” or a mink release) did not make a news report or a chronology. On the other hand, the EID may include events that never happened. This is an issue intrinsic to using group communiqués as a source, which certain chronologies did utilize.

In addition, some of the data were taken from certain organizations that may have a bias. As noted, the Foundation for Biomedical Research, the entity where the most incidents were extracted from, had a major role in the passing of the Animal Enterprise Terrorism Act. The fact that I was only able to verify around 30% of my cases through an independent news source does give some reason for concern. Future efforts should focus on the additional verification of events. Furthermore, adding a variable to measure the reliability of an incident source would be a useful addition to the EID.

The EID also had more sources in the years after the interventions. Although controlled for in the analyses, this is still a major limitation to the data. With only two total sources of information, only one of which that included terrorist cases, the assumed lack of activity in the 1970s could be a measurement error. However, and as previously discussed, the birth dates of major groups starting later in the series indicates that activity should not have picked up until late into this decade.

In regards to the analysis, the time-series analysis was without many control variables as there was little data available on anything over time that made theoretical sense to include. This is one of the many benefits to series hazard modeling; the ability to control for a greater number of competing explanations, which I was able to do in my own analyses.

Additional research should also examine additional interventions, especially those on a local level. For instance, countermeasure research has argued that local enforcement might be the best avenue of defense against terrorism (Smith et al., 2009). It would be interesting to test local measures taken against members of radical environmental and animal rights groups. For instance, has additional security at a company like Huntingdon Life Sciences deterred attacks? Or, how effective have area police departments been at catching members of radical eco-groups before an attack because of pre-incident behaviors like the purchasing of bomb-making equipment (Smith et al., 2009)?

Future investigations should consider comparative countermeasures, especially in the United Kingdom. This region is where many U.S. groups matriculated from and where there appears to be a greater level of activity. If there is

support that legislation or other measures associated with severe sanctions has combated criminal conduct perpetrated by members of radical eco-groups, these investigations would provide additional support. Similarly, it would be useful to study the role that historical terrorist events have had in regards to the environment of the U.K.

### Conclusion

All in all, this dissertation has the potential to contribute a great amount to theory, research, and policy. For the first time, the rational choice perspective has been applied to the criminal conduct of environmental and animal rights extremists and in particular, the role of severe sanctions. This investigation also connected the work on moral inhibitions and the moral environment to findings regarding the effects of large-scale terrorist events. The differing results contingent upon the methodology employed draws attention to the impact of analysis choice on substantive conclusions. Finally, policy implications are inherent to findings that indicate how much an economic, but not violent threat, members of these groups pose.

The answer to whether members of radical environmental and animal rights groups are deterred by legal sanctions, morality, both, or neither proved to be a complicated one. This should not be a surprise given the complexity of human behavior and the myriad of mechanisms for explaining such behavior. As a whole, members of radical eco-groups appear to have been somewhat influenced by federal legislative efforts, but not by two major terrorist events specific to their movements.

## FIGURES

*Figure 5.1, Radical Eco-Group Attacks with Interventions*

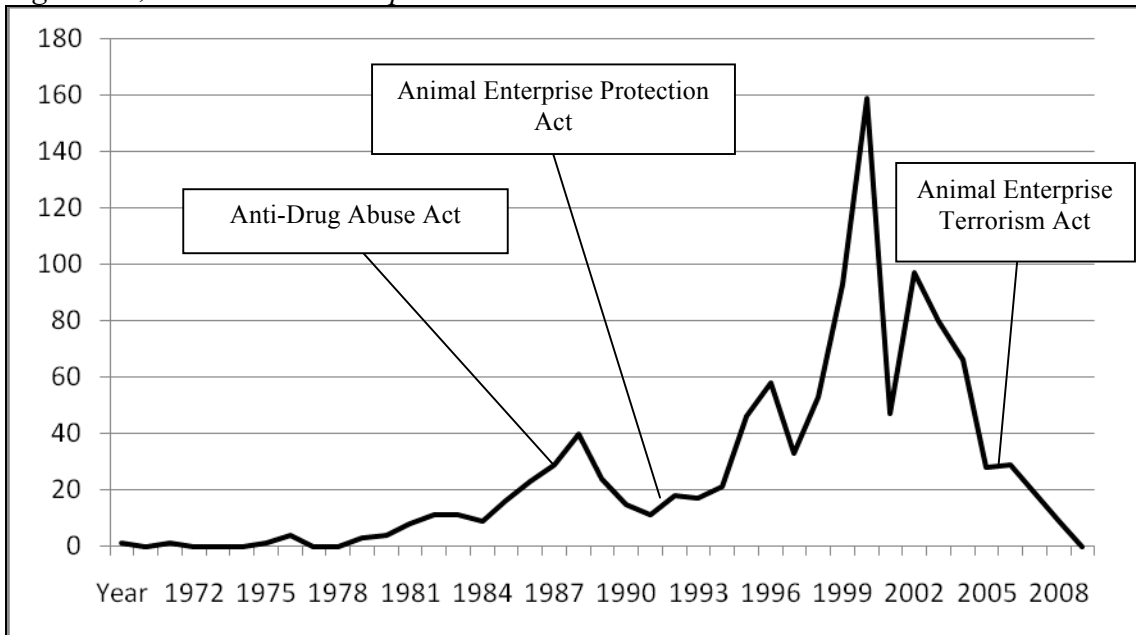




Figure 5.2, Radical Eco-Group Terrorist Attacks with Interventions

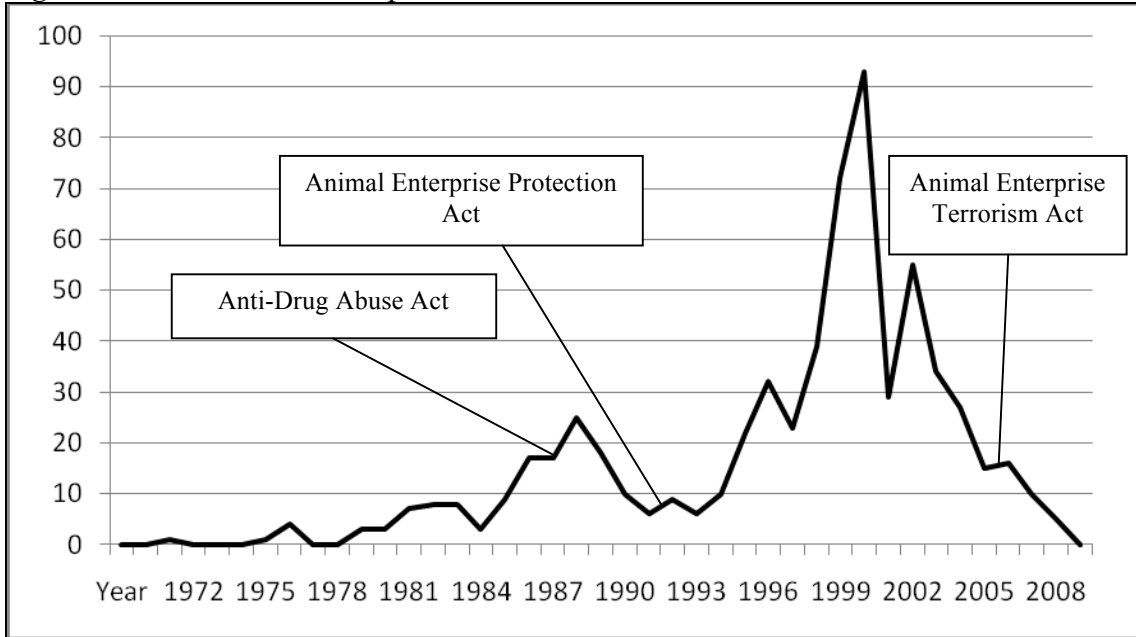


Figure 5.3, Radical Eco-Group Damage Attacks with Interventions

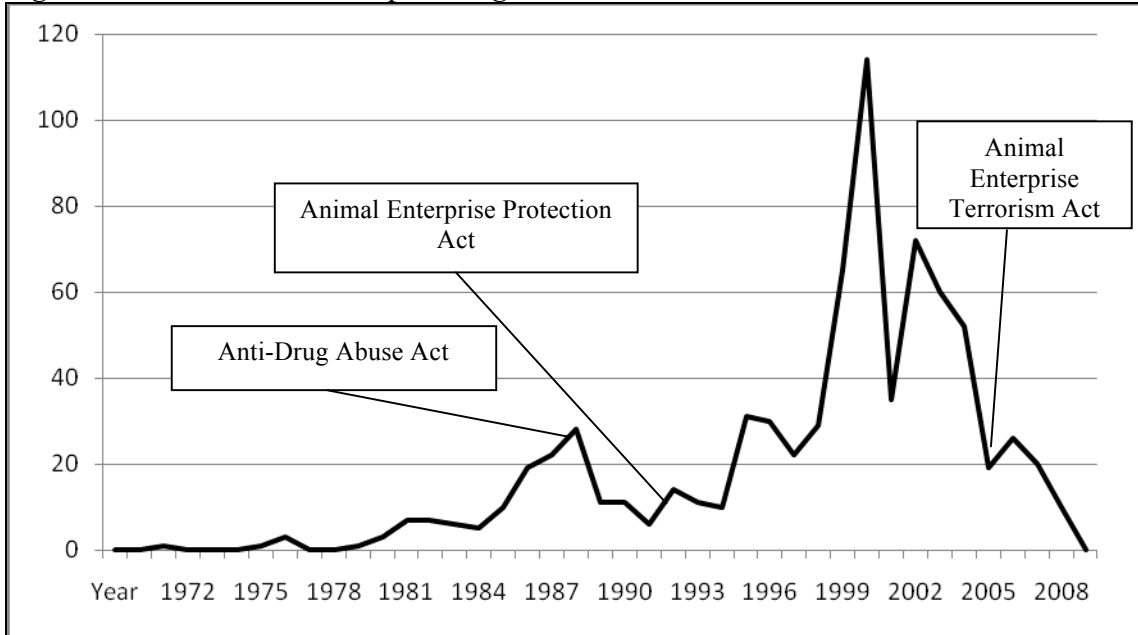


Figure 5.4, Radical Eco-Group Attacks with Legal Interventions by Ideology

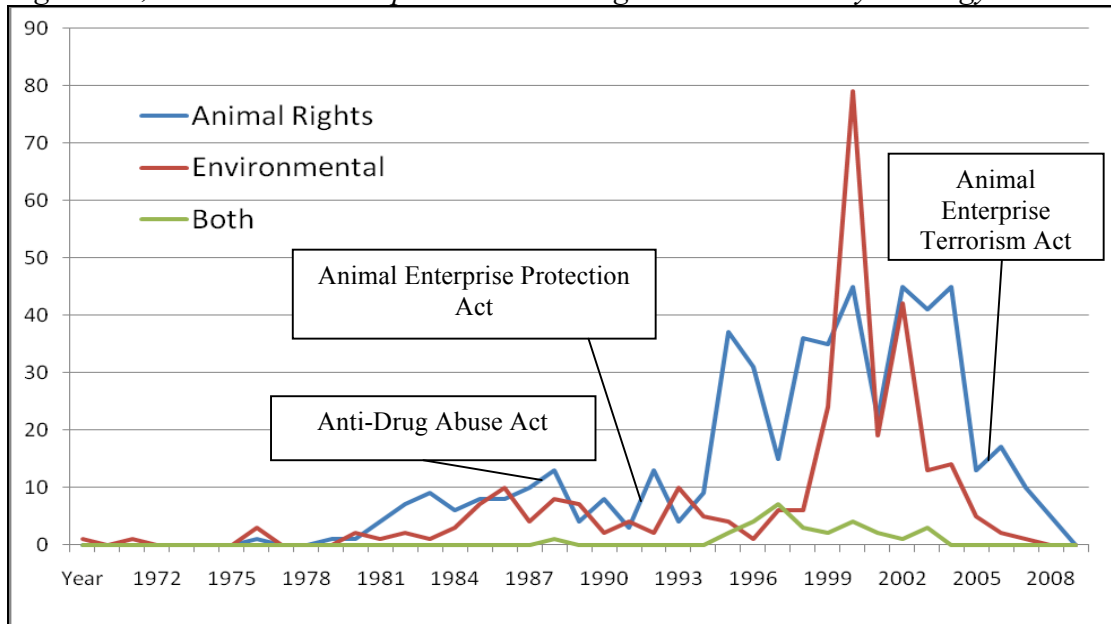


Figure 6.1, Radical Eco-Group Attacks with Terrorist Events

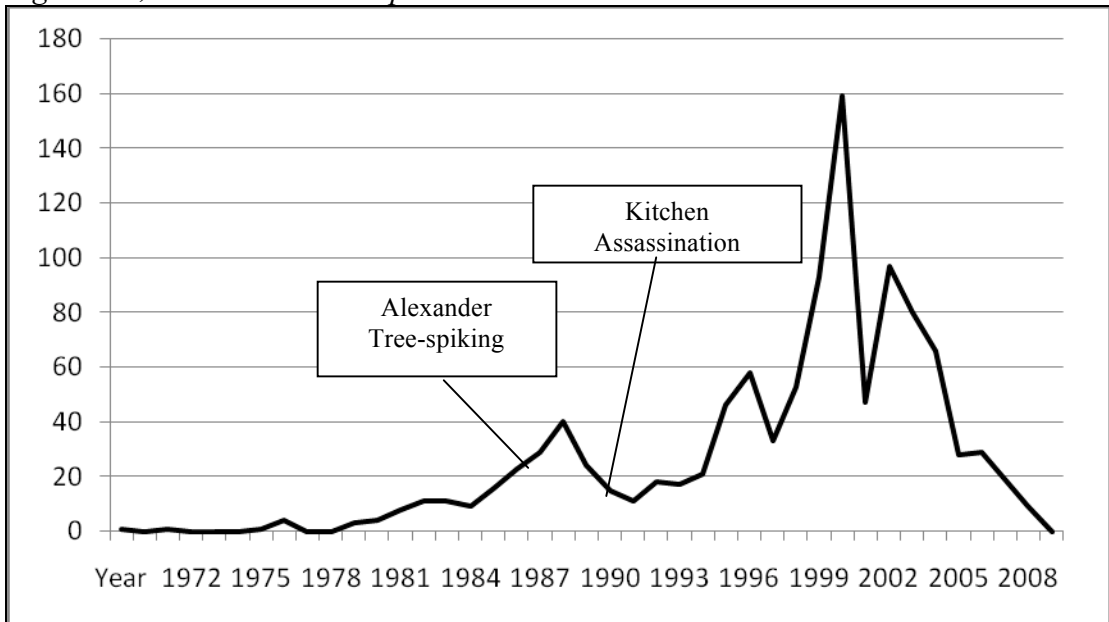


Figure 6.2, Radical Eco-Group Terrorist Attacks with Terrorist Events

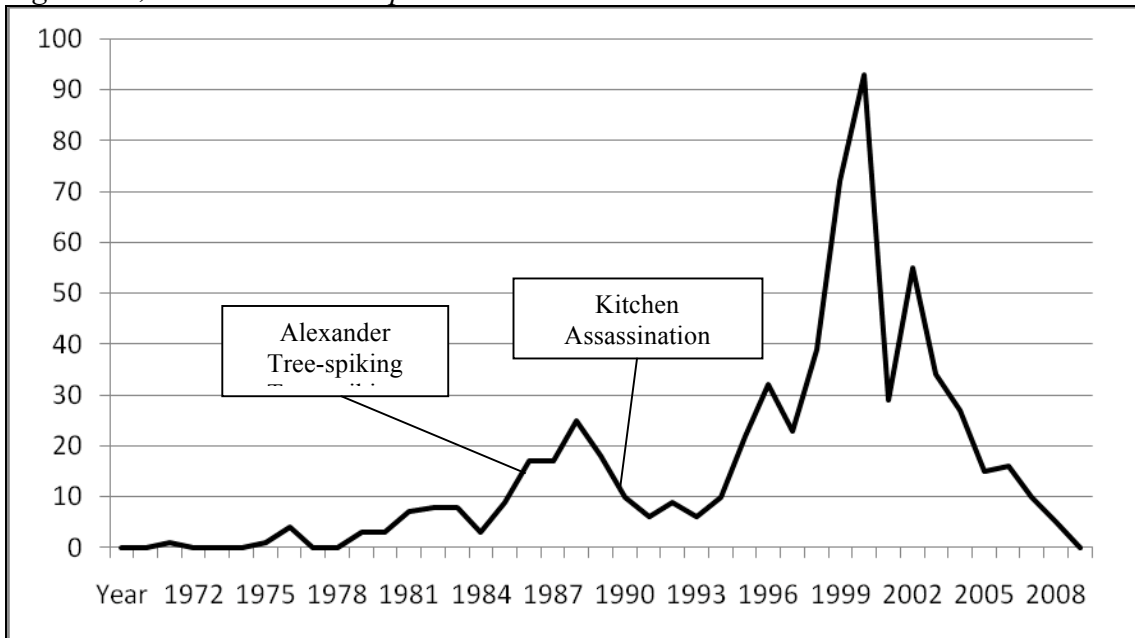


Figure 6.3, Radical Eco-Group Damage Attacks with Terrorist Events

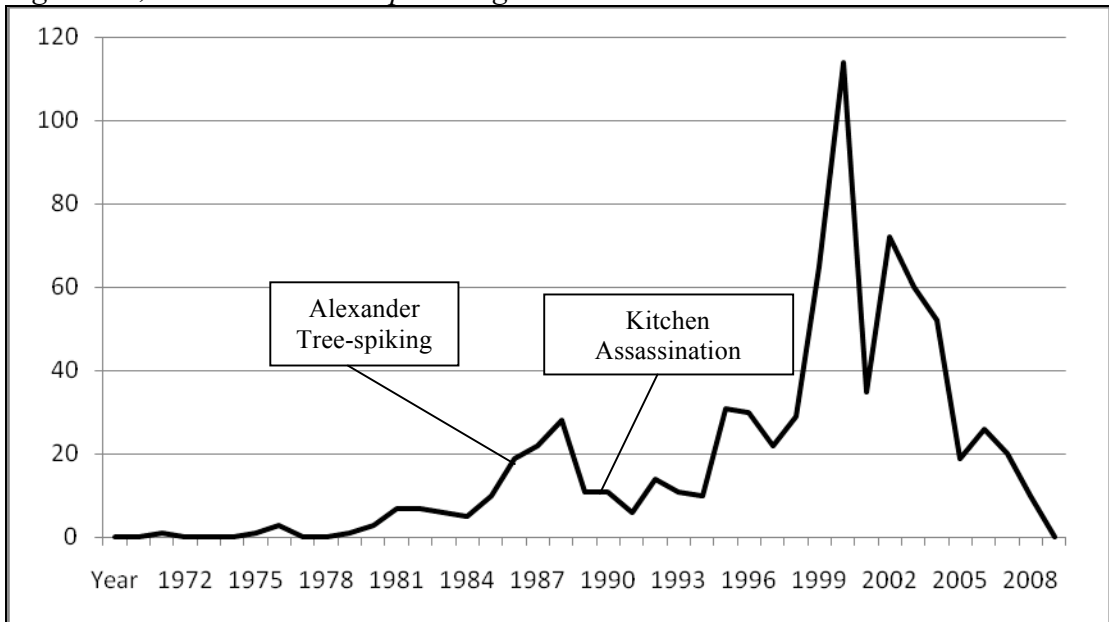
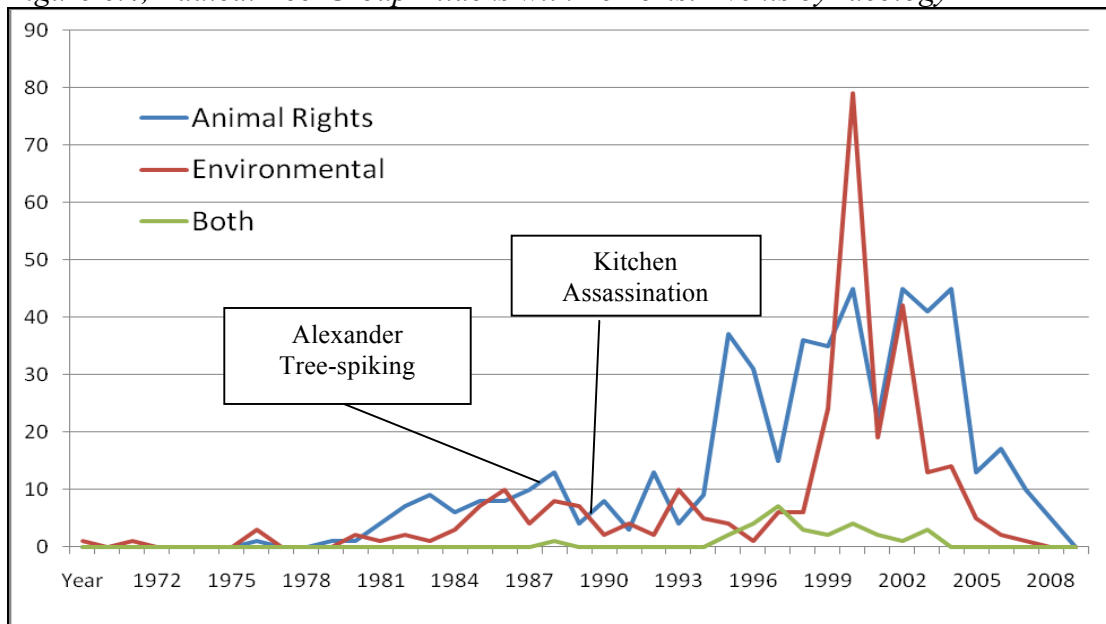


Figure 6.4, Radical Eco-Group Attacks with Terrorist Events by Ideology



## TABLES

*Table 3.1, Alternative Chronologies*

<b>Source</b>	<b>Years</b>	<b>Number of U.S. Incidents</b>
Global Terrorism Database	1970-2007	87
FBR Chronology	1981-2007	474
Arnold Chronology	1958-1996	215
Anti-Defamation League	2004-2007	38
Department of Homeland Security Report	1984-2007	156
Fur Commission Chronology	1980-2007	271
Hewitt Chronology	1984-2004	119
Leader and Probst Chronology	1996-2001	100
NAIA Chronology	1983-2007	479
<i>Seattle Times</i> Chronology	1980-2004	46
Smith Events	1995-2001	19
Southern Poverty Law Center	1984-2002	97
USDA/DOJ Report	1984-1992	21



*Table 3.2, General Descriptive Statistics for EID, n=1056*

<b>Variable</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Minimum Value</b>	<b>Maximum Value</b>
Number Killed	.000	.031	0	1
Number Wounded	.009	.106	0	2
Damage Amount	830,691.09	3,600,572.73	0	50,000,000
Weapon Used	.186	.118	No	Yes
Terrorism	.589	.492	Crime	Terrorism
Person Targeted	.185	.388	No	Yes
Damage	.692	.462	No	Yes
Success	.905	.293	No	Yes

*Table 3.3, Descriptive Statistics for Total Incidents, n=1056*

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value
<b>Days until next attack</b>	14.170	61.908	1	1562
<b>Interventions</b>				
Anti-Drug Abuse Act (November 18, 1988)	.044	.204	0	1
Animal Enterprise Protection Act (August 26, 1992)	.014	.118	0	1
Animal Enterprise Terrorism Act (November 27, 2006)	.029	.169	0	1
<b>Controls</b>				
Data Source	9.216	2.519	2	12
Last Incident	14.471	62.295	1	1562
Success Density	80.289	110.054	0	365
Monthly Count	344.135	77.748	4	456
Animal Rights Ideology	.465	.499	0	1

*Table 3.4, Descriptive Statistics for Terrorist Incidents, n=622*

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value
<b>Days until next terrorist attack</b>	22.787	77.552	1	1562
<b>Interventions</b>				
Anti-Drug Abuse Act (November 18, 1988)	.047	.211	0	1
Animal Enterprise Protection Act (August 26, 1992)	.010	.098	0	1
Animal Enterprise Terrorism Act (November 27, 2006)	.023	.168	0	1
<b>Controls</b>				
Data Source	9.370	2.488	2	12
Last Incident	23.523	77.888	1	1562
Success Density	65.261	106.445	.191	365
Monthly Count	338.027	79.795	26	454
Animal Rights Ideology	.445	.497	0	1

*Table 3.5, Descriptive Statistics for Damage Incidents, n=731*

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value
<b>Days until next damage attack</b>	19.277	72.355	1	1562
<b>Interventions</b>				
Anti-Drug Abuse Act (November 18, 1988)	.045	.208	0	1
Animal Enterprise Protection Act (August 26, 1992)	.012	.110	0	1
Animal Enterprise Terrorism Act (November 27, 2006)	.037	.189	0	1
<b>Controls</b>				
Data Source	9.047	2.570	2	12
Last Incident	20.423	73.381	1	1562
Success Density	69.936	105.062	.190	365
Monthly Count	347.690	78.169	26	456
Animal Rights Ideology	.439	.496	0	1

*Table 3.6, Descriptive Statistics for Animal-Only Incidents, n=491*

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value
<b>Days until next damage attack</b>	24.867	64.993	1	1091
<b>Interventions</b>				
Anti-Drug Abuse Act (November 18, 1988)	.030	.172	0	1
Animal Enterprise Protection Act (August 26, 1992)	.018	.134	0	1
Animal Enterprise Terrorism Act (November 27, 2006)	.039	.193	0	1
<b>Controls</b>				
Data Source	9.033	2.602	2	12
Last Incident	25.831	67.518	1	1091
Success Density	47.107	85.172	0	365
Monthly Count	348.082	76.249	89	456

*Table 3.7, Descriptive Statistics for Environmental-Only Incidents, n=288*

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value
<b>Days until next environmental attack</b>	53.638	159.415	1	1916
<b>Interventions</b>				
Anti-Drug Abuse Act (November 18, 1988)	.024	.154	0	1
Animal Enterprise Protection Act (August 26, 1992)	.007	.083	0	1
Animal Enterprise Terrorism Act (November 27, 2006)	.007	.083	0	1
<b>Controls</b>				
Data Source	9.174	2.507	2	12
Last Incident	52.930	158.442	1	1916
Success Density	54.349	99.329	0	365
Monthly Count	346.108	80.213	4	448

Table 5.1, Model of Total Incidents by Quarter

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>p</b>
<i>Model 1</i>	AR (1)	.984	.020	48.74	.000***
	MA(1)	-.711	.069	-10.28	.000***
	Data_Src	.079	.034	2.32	.020*
	Intercept	.871	.662	1.32	.188
<i>Model 2</i>	ADA	-.023	.043	-.54	.59
	Data_Src	.010	.005	1.97	.049*
	Δ	.972	.028	34.35	.000***
	Intercept	-.008	.034	-.24	.807
<i>Model 3</i>	AEPA	.088	.049	1.80	.073
	Data_Src	.012	.006	2.14	.032*
	Δ	.925	.033	27.95	.000***
	Intercept	-.002	.034	-.07	.945
<i>Model 4</i>	AETA	-.021	.331	-.06	.949
	Data_Src	.010	.006	1.86	.064
	Δ	.962	.019	49.75	.000***
	Intercept	-.005	.035	-.16	.874

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

NOTE: “Data\_Src” is the designation for the control variable measuring number of data sources. “AEPA” (Animal Enterprise Protect Act) ends when “AETA” (Animal Enterprise Terrorism Act) begins because the latter was a revision and extension of the former legislation. “ADA” represents the Anti-Drug Abuse Act of 1988.

Table 5.2, Model of Terrorist Incidents by Quarter

	Variable	Coefficient	Standard Error	Z	P
<i>Model 1</i>	AR (1)	.984	.010	99.67	.000***
	MA(1)	-.858	.025	-33.78	.000***
	Data_Src	.053	.031	1.71	.087
	Intercept	.173	.389	0.44	.657
<i>Model 2</i>	ADA	-.002	.046	-.05	.956
	Data_Src	.011	.006	1.97	.049*
	Δ	.942	.033	28.95	.000***
	Intercept	-.005	.046	-.11	.910
<i>Model 3</i>	AEPA	.100	.052	1.94	.053
	Data_Src	.012	.006	2.04	.041*
	Δ	.896	.037	24.19	.000***
	Intercept	-.002	.048	-.04	.969
<i>Model 4</i>	AETA	-.046	.134	-.034	.733
	Data_Src	.011	.006	1.88	.060
	Δ	.942	.024	39.58	.000***
	Intercept	-.003	.046	-.08	.940

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$



Table 5.3, Model of Damage Incidents by Quarter

	Variable	Coefficient	Standard Error	Z	P
<i>Model 1</i>	AR (1)	.980	.024	40.99	.000***
	MA(1)	-.692	.071	-9.65	.000***
	Data_Src	.046	.043	1.08	.282
	Intercept	.842	.691	1.22	.223
<i>Model 2</i>	ADA	-.000	.049	-.00	.997
	Data_Src	.010	.006	1.60	.110
	Δ	.951	.035	26.89	.000***
	Intercept	-.002	.054	-.04	.966
<i>Model 3</i>	AEPA	.124	.058	2.13	.033*
	Data_Src	.011	.007	1.66	.097
	Δ	.899	.041	21.74	.000***
	Intercept	.005	.058	.08	.936
<i>Model 4</i>	AETA	.056	.227	.26	.797
	Data_Src	.011	.007	1.62	.106
	Δ	.948	.027	35.00	.000***
	Intercept	-.004	.055	-.07	.942

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

Table 5.4, Model of Animal-Only Incidents by Quarter

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.984	.023	41.99	.000***
	MA(1)	-.770	.066	-11.74	.000***
	Data_Src	.060	.044	1.38	.166
	Intercept	.580	.682	0.85	.395
<i>Model 2</i>	ADA	.013	.039	0.33	.739
	Data_Src	.006	.004	1.47	.141
	Δ	.966	.029	33.65	.000***
	Intercept	-.002	.037	-0.05	.959
<i>Model 3</i>	AEPA	.091	.047	1.94	.052
	Data_Src	.007	.003	2.02	0.044*
	Δ	.927	.033	27.77	.000***
	Intercept	.000	.027	0.02	.988
<i>Model 4</i>	AETA	-.005	1.565	-0.00	.998
	Data_Src	.006	.004	1.61	.107
	Δ	.972	.016	60.26	.000***
	Intercept	-.003	.034	-0.09	.930

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

Table 5.5, Model of Environment-Only Incidents by Quarter

	Variable	Coefficient	Standard Error	Z	P
<i>Model 1</i>	AR (1)	.931	.044	21.17	.000***
	MA(1)	-.645	.080	-8.04	.000***
	Data_Src	.063	.055	1.14	.256
	Intercept	.161	.570	0.28	.777
<i>Model 2</i>	ADA	-.002	.043	-0.04	.965
	Data_Src	.009	.005	1.60	.110
	Δ	.940	.054	17.53	.000***
	Intercept	-.022	.055	-0.40	.687
<i>Model 3</i>	AEPA	.057	.051	1.11	.265
	Data_Src	.008	.006	1.39	.166
	Δ	.907	.062	14.51	.000***
	Intercept	-.018	.059	-0.31	.759
<i>Model 4</i>	AETA	-.221	.407	-0.54	.587
	Data_Src	.007	.005	1.47	.141
	Δ	.949	.035	27.36	.000***
	Intercept	-.016	.050	-0.32	.747

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

Table 5.6, Model of Total Incidents by Month

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.988	.009	113.79	.000***
	MA(1)	-.832	.028	-30.03	.000***
	Data_Src	.057	.034	1.69	.090
	Intercept	.392	.480	0.82	.413
<i>Model 2</i>	ADA	-.002	.013	-0.15	.881
	Data_Src	.003	.001	1.90	.057
	Δ	.984	.010	94.39	.000***
	Intercept	-.004	.015	-.28	.777
<i>Model 3</i>	AEPA	.029	.013	2.26	.024*
	Data_Src	.003	.001	1.97	.049*
	Δ	.966	.012	79.92	.000***
	Intercept	-.003	.016	-.21	.830
<i>Model 4</i>	AETA	.005	.052	.10	.917
	Data_Src	.003	.002	1.91	.056
	Δ	.982	.008	126.49	.000***
	Intercept	-.004	.015	-0.28	.779

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

Table 5.7, Model of Terrorist Incidents by Month

	Variable	Coefficient	Standard Error	Z	P
<i>Model 1</i>	AR (1)	.984	.010	99.67	.000***
	MA(1)	-.858	.025	-33.78	.000***
	Data_Src	.053	.031	1.71	.087
	Intercept	.173	.389	0.44	.657
<i>Model 2</i>	ADA	.498	.265	1.88	.061
	Data_Src	.041	.029	1.40	.161
	Intercept	.008	.374	.02	.982
<i>Model 3</i>	AEPA	.025	.013	2.02	.043*
	Data_Src	.003	.002	1.71	.088
	Δ	.956	.014	67.68	.000***
	Intercept	-.003	.016	-.22	.824
<i>Model 4</i>	AETA	-.011	.034	-.32	.753
	Data_Src	.003	.001	1.70	.089
	Δ	.975	.009	106.57	.000***
	Intercept	-.003	.015	-.21	.837

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

NOTE: ADA's impact on monthly terrorist incidents was abrupt, permanent rather than gradual, permanent.

Table 5.8, Model of Damage Incidents by Month

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.983	.010	96.29	.000***
	MA(1)	-.794	.028	-27.89	.000***
	Data_Src	.027	.035	0.76	.445
	Intercept	.433	.459	0.94	.346
<i>Model 2</i>	ADA	.010	.016	.59	.557
	Data_Src	.002	.002	1.28	.200
	Δ	.969	.015	66.18	.000***
	Intercept	-.001	.021	-.05	.957
<i>Model 3</i>	AEPA	.037	.016	2.28	.022*
	Data_Src	.002	.002	1.32	.188
	Δ	.952	.016	59.37	.000***
	Intercept	-.000	.022	-.02	.986
<i>Model 4</i>	AETA	.018	.054	.33	.739
	Data_Src	.003	.002	1.58	.115
	Δ	.976	.010	98.05	.000***
	Intercept	-.003	.019	-.14	.885

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

Table 5.9, Model of Animal-Only Incidents by Month

	Variable	Coefficient	Standard Error	Z	P
<i>Model 1</i>	AR (1)	.989	.009	109.81	.000***
	MA(1)	-.872	.023	-37.26	.000***
	Data_Src	.025	.032	0.80	.424
	Intercept	.305	.486	0.63	.530
<i>Model 2</i>	ADA	.516	.187	2.76	.006**
	Data_Src	.016	.031	0.51	.611
	Intercept	.109	.382	0.29	.775
<i>Model 3</i>	AEPA_2M	.076	.421	0.18	.857
	Data_Src	.024	.033	.72	.469
	Δ	-.024	.044	-0.54	.590
	Intercept	.325	.492	0.66	.509
<i>Model 4</i>	AETA	.013	.039	.34	.730
	Data_Src	.002	.001	1.29	.198
	Δ	.980	.010	101.13	.000***
	Intercept	-.002	.017	-0.14	.892

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

NOTE: ADA's impact on monthly animal-only incidents was abrupt, permanent rather than gradual, permanent. The slope of AEPA's impact on monthly animal-only incidents indicated an abrupt, temporary effect for 2 months, but was insignificant.

Table 5.10, Model of Environment-Only Incidents by Month

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.934	.020	45.80	.000***
	MA(1)	-.679	.044	-15.56	.000***
	Data_Src	.036	.030	1.22	.224
	Intercept	.023	.294	0.08	.937
<i>Model 2</i>	ADA	.028	.022	1.28	.200
	Data_Src	.002	.003	.80	.424
	Δ	.896	.029	30.78	.000***
	Intercept	-.000	.031	-0.02	.986
<i>Model 3</i>	AEPA	.041	.021	1.96	.050*
	Data_Src	.003	.003	0.91	.364
	Δ	.883	.031	28.11	.000***
	Intercept	-.001	.031	-.03	.977
<i>Model 4</i>	AETA	-.020	.073	-0.28	.781
	Data_Src	.003	.003	1.29	.196
	Δ	.925	.022	41.48	.000***
	Intercept	-.002	.027	-0.06	.953

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$



Table 5.11, Hazard Ratios and Standard Errors for Series Hazard Model

	<b>All N=1053</b>	<b>Terrorism Only n=619</b>	<b>Damage Only n=728</b>	<b>Animal Only n=488</b>	<b>Environmental Only n=285</b>
<i>Interventions</i>					
ADA	.000** (.000)	.000* (.000)	.000* (.000)	1.458 (.408)	1.582 (.647)
ADA*M.Count	-.891** (.039)	-.880* (.050)	-.894* (.045)	----- -----	----- -----
AEPA	-.647 (.171)	-.395* (.165)	-.557 (.193)	-.669 (.237)	-.781 (.559)
AETA	-.552** (.108)	-.707 (.186)	-.638* (.135)	-.543* (.136)	-.798 (.577)
<i>Source</i>					
Data_Src	1.102*** (.018)	1.138*** (.025)	1.100*** (.022)	1.062* (.027)	1.145*** (.037)
<i>Context</i>					
Last Attempt	-.999 (.001)	1.000 (.001)	-.999 (.001)	-.996* (.002)	-.998 (.004)
Success_Dens	1.002*** (.000)	1.001** (.000)	1.002*** (.000)	1.001* (.001)	1.001* (.001)
AR_Ideology	-.873* (.055)	-.866 (.073)	-.878 (.068)	----- -----	----- -----
Monthly_Cnt	1.008*** .001	1.007*** .001	1.008*** .001	1.007*** (.001)	1.007*** (.001)

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

NOTE: "Success\_Dens" is success density, "AR\_Ideology" is animal rights' ideology, and "Monthly\_Cnt" is the monthly count variable.

Table 6.1, Model of All Incidents by Quarter

	Variable	Coefficient	Standard Error	Z	P
<i>Model 1</i>	AR (1)	.984	.020	48.74	.000***
	MA(1)	-.711	.069	-10.28	.000***
	Data_Src	.079	.034	2.32	.020*
	Intercept	.871	.662	1.32	.188
<i>Model 2</i>	Tree_Spike	-.003	.046	-0.06	.954
	Data_Src	.010	.005	1.91	.057
	$\Delta$	.962	.030	32.11	.000***
	Intercept	-.006	.037	-0.18	.861
<i>Model 3</i>	Kitchen	.013	.046	0.28	.781
	Data_Src	.011	.006	1.84	.065
	$\delta$	.955	.032	29.97	.000***
	Intercept	-.005	.037	-0.14	.886

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

NOTE: "Data\_Src" is the designation for the control variable measuring number of data sources. "Tree-spike" represents the incident involving the Alexander tree-spiking. "Kitchen" stands for the assassination of Dr. Hiram Kitchen.

*Table 6.2, Model of All Terrorist Incidents by Quarter*

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.970	.025	39.36	.000***
	MA(1)	-.713	.069	-10.34	.000***
	Data_Src	.086	.041	2.10	.036
	Intercept	.491	.546	0.90	.369
<i>Model 2</i>	Tree_Spike	.036	.055	0.65	.513
	Data_Src	.011	.006	1.77	.077
	$\Delta$	.922	.037	25.08	.000***
	Intercept	-.001	.050	-0.02	.988
<i>Model 3</i>	Kitchen	.017	.046	0.36	.716
	Data_Src	.011	.006	1.93	.054
	$\Delta$	.932	.034	27.58	.000***
	Intercept	-.004	.048	-0.09	.932

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

*Table 6.3, Model of All Damage Incidents by Quarter*

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.980	.024	40.99	.000***
	MA(1)	-.692	.071	-9.65	.000***
	Data_Src	.046	.043	1.08	.282
	Intercept	.842	.691	1.22	.223
<i>Model 2</i>	Tree_Spike	.067	.065	21.31	.000***
	Data_Src	.009	.007	1.27	.204
	$\delta$	.918	.043	21.31	.000***
	Intercept	.008	.063	0.12	.902
<i>Model 3</i>	Kitchen	.053	.051	1.04	.297
	Data_Src	.010	.007	1.47	.141
	$\delta$	.925	.039	24.01	.000***
	Intercept	.002	.061	0.04	.970

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

*Table 6.4, Model of Animal-Only Incidents by Quarter*

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.984	.023	41.99	.000***
	MA(1)	-.770	.066	-11.74	.000***
	Data_Src	.060	.044	1.38	.166
	Intercept	.580	.682	0.85	.395
<i>Model 2</i>	Tree_Spike	-.001	.038	-0.04	.972
	Data_Src	.006	.004	1.50	.133
	$\delta$	.972	.027	35.91	.000***
	Intercept	-.003	.037	-0.09	.929
<i>Model 3</i>	Kitchen	.041	.039	1.04	.296
	Data_Src	.005	.004	1.47	.142
	$\delta$	.952	.031	31.09	.000***
	Intercept	-.001	.037	-0.02	.987

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

*Table 6.5, Model of Environment-Only Incidents by Quarter*

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.931	.044	21.17	.000***
	MA(1)	-.645	.080	-8.04	.000***
	Data_Src	.063	.055	1.14	.256
	Intercept	.161	.570	0.28	.777
<i>Model 2</i>	Tree_Spike	-.023	.046	-0.50	.616
	Data_Src	.010	.005	1.78	.076
	$\delta$	.952	.051	18.59	.000***
	Intercept				
<i>Model 3</i>	Kitchen	.005	.042	0.11	.910
	Data_Src	.009	.005	1.56	.119
	$\delta$	.936	.054	17.36	.000***
	Intercept	-.022	.056	-0.39	.698

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

*Table 6.6, Model of Total Incidents by Month*

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.988	.009	113.79	.000***
	MA(1)	-.832	.028	-30.03	.000***
	Data_Src	.057	.034	1.69	.090
	Intercept	.392	.480	0.82	.413
<i>Model 2</i>	Tree_Spike	.009	.016	0.58	.560
	Data_Src	.003	.002	1.54	.123
	$\delta$	.977	.012	80.35	.000
	Intercept	-.003	.016	-0.19	.852
<i>Model 3</i>	Kitchen	.009	.013	0.69	.490
	Data_Src	.003	.002	1.78	.070
	$\delta$	.977	.011	87.11	.000
	Intercept	-.004	.016	-0.23	.817

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

*Table 6.7, Model of All Terrorist Incidents by Month*

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.984	.010	99.67	.000***
	MA(1)	-.858	.025	-33.78	.000***
	Data_Src	.053	.031	1.71	.087
	Intercept	.173	.389	0.44	.657
<i>Model 2</i>	Tree_Spike	.009	.015	0.61	.543
	Data_Src	.002	.002	1.47	.140
	$\delta$	.967	.013	71.77	.000***
	Intercept	-.003	.016	-0.18	.856
<i>Model 3</i>	Kitchen	.006	.012	0.49	.623
	Data_Src	.003	.002	1.70	.090
	$\delta$	.970	.012	78.22	.000***
	Intercept	-.003	.015	-0.23	.820

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$



*Table 6.8, Model of All Damage Incidents by Month*

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.983	.010	96.29	.000***
	MA(1)	-.794	.028	-27.89	.000***
	Data_Src	.027	.035	0.76	.445
	Intercept	.433	.459	0.94	.346
<i>Model 2</i>	Tree_Spike	.025	.021	1.20	.231
	Data_Src	.002	.002	0.87	.387
	$\delta$	.958	.017	55.33	.000***
	Intercept	.001	.023	0.05	.961
<i>Model 3</i>	Kitchen	.020	.015	1.29	.196
	Data_Src	.002	.002	1.21	.225
	$\delta$	.962	.015	66.09	.000
	Intercept	-.001	.022	-0.04	.968

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

*Table 6.9, Model of Animal-Only Incidents by Month*

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.989	.009	109.81	.000***
	MA(1)	-.872	.023	-37.26	.000***
	Data_Src	.025	.032	0.80	.424
	Intercept	.305	.486	0.63	.530
<i>Model 2</i>	Tree_Spike	.013	.014	0.93	.353
	Data_Src	.001	.002	0.76	.448
	$\delta$	.970	.015	66.60	.000***
	Intercept	-.000	.019	-0.02	.985
<i>Model 3</i>	Kitchen	.022	.012	1.80	.072
	Data_Src	.001	.002	0.89	.371
	$\delta$	.962	.015	62.35	.000***
	Intercept	-.001	.019	-0.04	.967

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

*Table 6.10, Model of Environment-Only Incidents by Month*

	<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Z</b>	<b>P</b>
<i>Model 1</i>	AR (1)	.934	.020	45.80	.000***
	MA(1)	-.679	.044	-15.56	.000***
	Data_Src	.036	.030	1.22	.224
	Intercept	.023	.294	0.08	.937
<i>Model 2</i>	Tree_Spike	.025	.025	1.02	.309
	Data_Src	.002	.003	0.73	.467
	$\delta$	.901	.029	31.45	.000***
	Intercept	.000	.030	0.00	1.000
<i>Model 3</i>	Kitchen	.027	.020	1.31	.190
	Data_Src	.003	.003	0.91	.365
	$\delta$	.897	.029	31.41	.000***
	Intercept	-.001	.031	-0.05	.964

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

Table 6.11, Hazard Ratios and Standard Errors for Series Hazard Model

	<b>All n=1053</b>	<b>Terrorism Only n=619</b>	<b>Damage Only n=728</b>	<b>Animal Only n=488</b>	<b>Environmental Only n=285</b>
<i>Events</i>					
Tree_Spike	1.046 (.232)	1.182 (.311)	1.168 (.298)	1.094 (.369)	1.036 (.424)
Kitchen	1.030 (.224)	1.166 (.299)	-.800 (.249)	-.435 (.256)	-.961 (.384)
<i>Source</i>					
Data_Src	1.109*** (.018)	1.137*** (.024)	1.011*** (.021)	1.077** (.027)	1.104*** (.032)
<i>Context</i>					
Last Attempt	-.999 (.000)	-.999 (.001)	-.998 (.001)	-.996* (.001)	-.996*** (.001)
Success_Dens	1.002*** (.000)	1.001** (.000)	1.002*** (.000)	1.001 (.001)	1.002** (.001)
AR_Ideology	-.852 (.053)	-.868 (.072)	-.858* (.065)	----- -----	----- -----
Monthly_Cnt	1.007*** (.001)	1.007*** (.001)	1.007*** (.001)	1.006*** (.001)	1.006*** (.001)

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

NOTE: "Success\_Dens" is success density, "AR\_Ideology" is animal rights' ideology, and "Monthly\_Cnt" is the monthly count variable.

Table 6.12, Hazard Ratios and Standard Errors for Full Series Hazard Model

	<b>All n=1053</b>	<b>Terrorism Only n=619</b>	<b>Damage Only n=728</b>	<b>Animal Only n=490</b>	<b>Environmental Only n=286</b>
<i>Interventions</i>					
ADA	.000** (.000)	.000* (.000)	.000* (.000)	1.440 (.407)	1.472 (.616)
ADA*M.Count	-.890** (.039)	-.879* (.049)	-.893* (.045)	----- -----	----- -----
AEPA	-.660 (.175)	-.406* (.170)	-.562 (.196)	-.642 (.229)	-.745 (.536)
AETA	-.546* (.107)	-.693 (.183)	-.631* (.134)	-.542* (.136)	-.821 (.594)
Tree_Spike	1.216 (.275)	1.360 (.367)	1.400 (.367)	1.157 (.395)	-.789 (.333)
Kitchen	1.148 (.253)	1.297 (.378)	-.885 (.278)	-.427 (.255)	-.791 (.323)
<i>Source</i>					
Data_Src	1.104*** (.018)	1.141*** (.025)	1.101*** (.022)	1.065* (.027)	1.143*** (.037)
<i>Context</i>					
Last Attempt	1.000 (.001)	1.001 (.001)	-.999 (.001)	-.997 (.002)	-.997 (.004)
Success_Dens	1.002*** (.000)	1.001** (.001)	1.002*** (.000)	1.001 (.001)	1.001* (.001)
AR_Ideology	-.878* (.055)	-.871 (.074)	-.880 (.068)	----- -----	----- -----
Monthly_Cnt	1.008*** (.001)	1.008*** (.001)	1.008*** (.001)	1.007*** (.001)	1.007*** (.001)

\*\*\*significant at  $p < .001$  \*\*significant at  $p < .01$  \*significant at  $p < .05$

NOTE: "Success\_Dens" is success density, "AR\_Ideology" is animal rights' ideology, and "Monthly\_Cnt" is the monthly count variable.

**CONSENT FORM**

<b>Project Title</b>	<i>The Etiology of Activism</i>
<b>Why is this research being done?</b>	<i>This is a research project being conducted by Jennifer Varriale at the University of Maryland, College Park. We are inviting you to participate in this research project because you are an animal rights or environmental activist. The purpose of this research project is to understand the background of the environmental and animal rights movements and to ascertain the motivations for activism.</i>
<b>What will I be asked to do?</b>	<p><i>The procedures involve a one hour interview in the small conference room in Symons Hall. The following pre-selected questions will be asked:</i></p> <ol style="list-style-type: none"> <li>1. How did you get involved into the movement?</li> <li>2. What kinds of activities do you participate in?</li> <li>3. Do you ascribe to any particular environmental philosophy? Deep ecology? Biocentrism?</li> <li>4. Do you believe that the damage that has been done to the environment is irreversible?</li> <li>5. Do you think that lobbying is an effective strategy for solving problems? What about civil disobedience or nonviolent criminal acts?</li> <li>6. Are you familiar with the Anti-Drug Abuse Act of 1988 that criminalized tree-spiking? Has this influenced your behavior in any way?</li> <li>7. What about the PATRIOT act and the redefinition of terrorism? Or the Animal Enterprise Protection Act of 1992 and more recent Animal Enterprise Terrorism Act of 2006?</li> <li>8. Did the Oklahoma City bombing and/or September 11<sup>th</sup> change your views on terrorism and/or the use of criminal activity as a tactic?</li> <li>9. Is harming a human ever justified? Threatening harm?</li> <li>10. Do you feel that with the release of Al Gore's documentary and the emergence of a more mainstream green movement that there is more hope today than before? Will this have a spillover effect with animal rights?</li> </ol>

<b>Project Title</b>	<i>The Etiology of Activism</i>
<b>What about confidentiality?</b>	<p><i>We will do our best to keep your personal information confidential. To help protect your confidentiality, this research would identify you only through an ID number. Your name will not be included on the interview audiotape and transcript, a code will be placed on the interview audiotape and transcript, through the use of an identification key, the researcher will be able to link your audiotape and transcript to your identity, and only the researcher will have access to the identification key. The audiotapes will be destroyed once the transcripts are typed up (within 48 hours). All materials will be kept in locked cabinets and on password-protected computers. If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i></p> <p>___ I agree to be audiotaped during my participation in this study.</p> <p>___ I do not agree to be audiotaped during my participation in this study.</p> <p><i>In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning potential harm to you or others.</i></p>

<b>What are the risks of this research?</b>	<i>There are no known risks associated with participating in this research project.</i>
<b>What are the benefits of this research?</b>	<i>This research is not designed to help you personally, but the results may help the investigator learn more about the animal rights and environmental movements. We hope that, in the future, other people might benefit from this study through improved understanding of activism.</i>
<b>Do I have to be in this research? May I stop participating at any time?</b>	<i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</i>



<p><b>What if I have questions?</b></p>	<p><i>This research is being conducted by Dr. Gary LaFree at the University of Maryland, College Park. If you have any questions about the research study itself, please contact Dr. Gary LaFree at: 3300 Symons Hall, 301-405-6600, <a href="mailto:glafree@crim.umd.edu">glafree@crim.umd.edu</a>.</i></p> <p><i>If you have questions about your rights as a research subject or wish to report a research-related injury, please contact:</i>  <b>Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) <a href="mailto:irb@deans.umd.edu">irb@deans.umd.edu</a>; (telephone) 301-405-0678</b></p> <p><i>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</i></p>	
<p><b>Statement of Age of Subject and Consent</b></p>	<p><i>Your signature indicates that:</i>  <i>you are at least 18 years of age;</i>  <i>the research has been explained to you;</i>  <i>your questions have been fully answered; and</i>  <i>you freely and voluntarily choose to participate in this research project.</i></p>	
<p><b>Signature and Date</b></p>	<p><b>NAME OF SUBJECT</b></p>	
	<p><b>SIGNATURE OF SUBJECT</b></p>	
	<p><b>DATE</b></p>	

*Appendix 1.2, EID Codebook*

1. **ID:** Create an identifying number for the incident based on the date (i.e. March 15, 2005 would be 31505).
2. **DATE:** In MM/DD/YYYY format.
3. **MONTH**
4. **DAY**
5. **YEAR**
6. **CITY/STATE**
7. **CITY**
8. **STATE**
9. **PERPETRATOR:** Fill out if one is listed. List “Unknown” if there is no group.
10. **IDEOLOGY**
  - a. Unknown=0
  - b. Animal rights=1
  - c. Environment=2
  - d. Multiple ideologies (often more than one group)=3
11. **ATTACK TYPE:** Values and definitions below.

Assassination=1	An act whose primary objective is to kill one or more specific, prominent individuals.
Armed Assault=2	An attack whose primary objective is to cause physical harm or death directly to human beings by any means other than an explosive.
Bombing/Explosion=3	An attack where the primary effects are caused by an energetically unstable material undergoing rapid decomposition (either deflagration or detonation) and releasing a pressure wave that causes physical damage to the surrounding environment.
Hijacking=4	An act whose primary objective is to take control of a vehicle such as an aircraft, boat, bus, etc. for the purpose of diverting it to an unprogrammed destination, obtain payment of a ransom, force the release of prisoners, or some other political objective.
Hostage Taking (Barricade Incident)=5	An act whose primary objective is to obtain political or other concessions in return for the release of prisoners (hostages).
Hostage Taking (Kidnapping)=6	As for barricade incident above, but

	distinguished by the intention to move and hold the hostages in a clandestine location.
Facility/Infrastructure Attack=7	An act, excluding the use of an explosive, whose primary objective is to cause damage to a non-human target, such as a building, monument, train, pipeline, etc. Such attacks consist of actions primarily aimed at damaging property, or at causing a diminution in the functioning of a useful system (mass disruption) yet not causing direct harm to people. Such attacks include arson, cyber attacks, and various forms of sabotage.
Unarmed Assault=8	An attack whose primary objective is to cause physical harm or death directly to human beings by any means other than explosive, firearm, incendiary, or sharp instrument (knife, etc.).
Unknown=9	The attack type cannot be determined from the available information.

**12. TARGET TYPE:** Values and definitions below.

Business=1	Businesses are defined as individuals or organizations engaged in commercial or mercantile activity as a means of livelihood.
Government=2	Any attack on a government building; government member, former members, including members of political parties, their convoys, or events sponsored by political parties; political movements; or a government sponsored institution where the attack is expressly carried out to harm the government.
Police=3	This value includes attacks on members of the police force or police installations; this includes police boxes, patrols headquarters, academies, cars, checkpoints, etc.
Military=4	Includes attacks against army units, patrols, barracks, and convoys, jeeps, etc. Also includes attacks on recruiting sites, and soldiers engaged in internal policing functions such as at checkpoints and in anti-narcotics activities.
Abortion-Related=5	Attacks on abortion clinics, employees, patrons, or security personnel stationed at clinics.
Airport/Airlines=6	An attack that was carried out either against an airplane or against an airport. Attacks against airline employees while on board are also included in this value.
Government	Attacks carried out against foreign missions, including

(Diplomatic)=7	embassies, consulates, etc.
Educational Institution=8	Attacks against schools, teachers, or guards protecting school sites. Includes attacks against university professors, teaching staff and school buses. Moreover, includes attacks against religious schools in this value.
Food or Water Supply=9	Attacks on food or water supplies or reserves are included in this value.
Journalists/Media=10	Includes, attacks on reporters, news assistants, photographers, publishers, as well as attacks on media headquarters and offices.
Maritime=11	Implies civilian maritime. Includes attacks against fishing ships, oil tankers, ferries, yachts, etc.
NGO=12	Includes attacks on offices and employees of non-governmental organizations (NGOs). NGOs here are defined as primarily large multinational non-governmental organizations. These include the Red Cross and Doctors without Borders. Peacekeepers also belong to this value.
Other=13	This value includes acts of terrorism committed against targets which do not fit into other categories.
Private Citizens/Party=14	This value includes attacks on individuals, the public in general or attacks in public areas including markets, commercial streets, busy intersections and pedestrian malls.
Religious Figures/Institutions=15	This value includes attacks on religious leaders, (Imams, priests, bishops, etc.), religious institutions (mosques, churches), religious places or objects (shrines, relics, etc.).
Telecommunication=16	This includes attacks on facilities and infrastructure for the transmission of information. More specifically this value includes things like cell phone towers, telephone booths, television transmitters, radio, and microwave towers.
Terrorists=17	Terrorists or members of identified terrorist groups are included in this value. Membership is broadly defined and includes informants for terrorist groups, but excludes former terrorists.
Tourists=18	This value includes the targeting of tour buses, tourists, or “tours.” Tourists are persons who travel primarily for the purposes of leisure or amusement.
Transportation=19	Attacks on public transportation systems are included in this value.
Unknown=20	The target type cannot be determined from the available information.
Utilities=21	This value pertains to facilities for the transmission or generation of energy.
Violent Political Parties=22	This value pertains to entities that are both political parties (and thus, coded as “government” in this coding scheme) and terrorists. It is operationally defined as groups that engage in electoral politics and appear as “Perpetrators” in the GTD.

**13. SUCCESS:** 0 or 1 (0=Incident did not have intended effects, 1=Incident had intended effects). For example, “a bomb goes off” is a successful attack. That same bomb not going off is unsuccessful.

**14. NKILL:** Number killed if any (most of the time this will be zero)

**15. NWOUND:** Number wounded if any (most of the time this will be zero)

**16. WEAPON:** 0 or 1 (0=Weapon was not used during incident, 1=Weapon was used during incident). In the GTD, weapon classifications include biological/chemical radiological/nuclear (CBRN), firearms, explosives/bombs/dynamite, fake weapons, incendiary, melee, vehicle (not vehicle-borne explosives), sabotage equipment, other, and unknown.

**17. WEAP\_TYP:** Values below.

1 = Biological

2 = Chemical

3 = Radiological

4 = Nuclear

5 = Firearms

6 = Explosives/Bombs/Dynamite

7 = Fake Weapons

8 = Incendiary

9 = Melee

10 = Vehicle (not to include vehicle-borne explosives, i.e., car or truck bombs)

11 = Sabotage Equipment

12 = Other

13 = Unknown

**18. DAMAGE:** 0 or 1 (0=There wasn't damage, 1=There was damage)

**19. DAM\_AMT:** Numeric representation of damage if there is a damage amount (i.e. \$10,000)

**20. TERRORISM:** 0 or 1 (0=Not terrorism, 1=Terrorism)

In short, the incident has to have the following three elements:

1) Non-state actor

2) Deliberate act

3) Violence or the threat of violence

Moreover, the incident has to have two of following three elements (in any combination as long as two are met):

1) A social, political, economic or religious goal (with regard to economic it cannot be the pure pursuit of money)

The violent act must be aimed at attaining a political, economic, religious, or social goal. This criterion is not satisfied in those cases where the perpetrator(s) acted out of a pure profit motive or from an idiosyncratic personal motive unconnected with broader societal change.

2) An intent to coerce or intimidate to a larger audience than the immediate victim(s)

To satisfy this criterion there must be evidence of an intention to coerce, intimidate, or convey some other message to a larger audience (or audiences) than the immediate victims. Such evidence can include (but is not limited to)

the following: pre- or post-attack statements by the perpetrator(s), past behavior by the perpetrators, or the particular nature of the target, weapon, or attack type

3) Outside international humanitarian law

The action must be outside the context of legitimate warfare activities, i.e. the act must be outside the parameters permitted by international humanitarian law (*jus in bello*) as reflected in the Additional Protocol to the Geneva Conventions of 12 August 1949 and elsewhere.

**21. TARTGET\_PEOPLE:** 0 or 1 (0=Incident did not target a person, 1=The Incident did target a person)

**22. SUMMARY:** Short description of incident (can be taken directly from source)

**23. SOURCE:** List of primary source from where incident came from (this can be a chronology)

**24. SOURCE VERIFIED:** Mark “yes” if you have directly seen the primary source

**25. ADDITONAL SOURCE:** If the case is terrorism, you must find an additional news source in Lexus Nexus or FACTIVA and list the link in the column.

## Bibliography

- Ackerman, G. (2003). Beyond arson? A threat assessment of the Earth Liberation Front. *Terrorism and Political Violence*, 15(4), 143-170.
- Ackerman, G. (2003). My reply to Perlstein and Taylor. *Terrorism and Political Violence*, 15(4), pp. 183-189.
- American Civil Liberties Union. (2006). *ACLU letter to Congress urging opposition to the Animal Enterprise Act, S. 1926 and H.R. 4239*. Retrieved January 8, 2009 from American Civil Liberties Union website: <http://www.aclu.org/freespeech/gen>.
- Amster, R. (2006). Perspectives on ecoterrorism: Catalysts, confluences, and causalities. *Contemporary Justice Review*, 9(3), pp. 287-301.
- Animal Liberation Front. (2007). *Mission statement*. Retrieved October 16, 2007, from Animal Liberation Front Web site: [http://www.animalliberationfront.com/ALFront/mission\\_statement.htm](http://www.animalliberationfront.com/ALFront/mission_statement.htm).
- Anti-Defamation League. (2009). *Ecoterrorism: Extremism in the animal rights and environmentalist movements*. Retrieved February 12, 2009 from Anti-Defamation League website: [www.adl.org/learn](http://www.adl.org/learn).
- Bachman, R., Ward, S., & Paternoster, R. (1992). The rationality of sexual offending: Testing a deterrence/rational choice conception of sexual assault. *Law & Society Review*, 26(2), 343-368.
- Bernard, T. J. (1990). Twenty years of testing theories: What we have learned and why? *Journal of Research in Crime and Delinquency*, 27(4), 325-347.
- Braga, A. (2001). The effects of hot spots policing on crime. *Annals of the American Academy of Political and Social Science*, 578(1), 104-125.
- Braithwaite, J. (2005). Pre-empting terrorism. *Current Issues in Criminal Justice*, 17(1), 96-111.
- Brown, C.S. (2006). Beyond intrinsic value: Undermining the justification of ecoterrorism. *American Journal of Economics and Sociology*, 66(1), pp.113-125.
- Bouhana, N. & Wikstrom, P.-O. H. (2008). Theorizing terrorism: Terrorism as moral action. A scoping study. Retrieved January 6, 2010 from UCL Jill Dando Institute of Security and Crime Science Website: <http://www.jdi.ucl.ac.uk>.
- Cochran, J. K. & Chamlin, M. B. (2000). Deterrence and brutalization: The dual effects of executions. *Justice Quarterly*, 17(4), 685-707.

- Charmaz, K. Grounded theory. In R. E. Emerson, *Contemporary field research* (pp. 335-352). Prospect Heights, IL: Waveland.
- Chiricos, T. G. & Waldo, G. P. (1970). Punishment and crime: An examination of some empirical evidence. *Social Problems*, 18(2), 200-217.
- Clarke, R. V. & Cornish, D. B. (1985). Modeling offenders' decisions: A framework for research and policy. *Crime and Justice*, 30(6), 147-185.
- Collins, S. D. (2004). Dissuading state support of terrorism: Strikes or sanctions? (An analysis of dissuasion measures employed against Libya). *Studies in Conflict and Terrorism*, 27(1), 1-18.
- Cornish, D. B. & Clarke, R. V. (1986). *The reasoning criminal: Rational choice perspectives on offending*. Secaucus, NJ: Springer-Verlag.
- Costello, B. J. & Vowell, P.R. (1999). Testing control theory and differential association. *Criminology*, 37(4), 815-842.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.
- Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.
- Dugan, L. (2009). Estimating effects over time for single and multiple observations. In A. Piquero and D. Weisburd (Eds.), *Handbook of Quantitative Criminology*. New York: Springer. Forthcoming.
- (2009). Terrorism. In M. Tonry (Ed.), *The Oxford Handbook of Crime and Public Policy* (pp. 723-763). New York: Oxford University Press .
- (2009). Series hazard modeling: An extension to the Cox proportional hazard model to estimate intervention effects on recurrent events for a single observation." Unpublished manuscript. University of Maryland.
- Dugan, L., Huang, J. Y., LaFree, G., McCauley, C. (2008). Sudden desistance from terrorism: The Armenian Secret Army for the Liberation of Armenia and the Justice Commandos of the Armenian Genocide. *Dynamics of Asymmetric Conflict*, 1(3), 231-249.
- Dugan, L., LaFree, G., & Piquero, A. R. (2005). Testing a rational choice model of airline hijackings. *Criminology*, 43(4), 1031-1065.
- Eagan, S. P. (1996). From spikes to bombs: The rise of eco-terrorism. *Studies in Conflict and Terrorism*, 19, 1-18.



- Enders, W. & Sandler, T. (1993). The effectiveness of antiterrorism policies: A vector-autoregression-intervention analysis. *The American Political Science Review* 87(4), 829-844.
- (2000). Is transnational terrorism becoming more threatening? *Journal of Conflict Resolution* 44(3), 307-332.
- Enders, W., Sandler, T., & Cauley, J. (1990). UN conventions, terrorism, and retaliation in the fight against terrorism: An econometric evaluation. *Terrorism and Political Violence*, 2(1), 83.
- Eidelson, R. J. & McCauley, C. (2009). U.S. polls: Trends in sympathy for right-wing and Muslim extremism. Unpublished manuscript. Bryn Mawr College.
- Erickson, M.L., Gibbs, J. P., & Jensen, G. F. (1977). The deterrence doctrine and the perceived certainty of legal punishments. *American Sociological Review*, 42(2), 205-307.
- Fontana, A. & Frey, J. H. (1998). Interviewing: The art of science. In N. K. Denzin & Y.S. Lincoln, *Collecting and interpreting qualitative materials* (pp. 47-79). Thousand Oaks, CA: Sage.
- Foundation for Biomedical Research. (2009). Animal activism. National Association for Biomedical Research. Retrieved May 15, 2009 from [www.nabr.org/animal activism](http://www.nabr.org/animal_activism).
- Freilich, J. D., Chermak, S. M., Simone, J. (2009). Surveying American state police agencies about terrorism threats, terrorism sources, and terrorism definitions. *Terrorism and Political Violence*, 21(3), 450-475.
- Frey, B.S. & Luechinger, S. (2002). Terrorism: Deterrence may backfire. Working paper.
- Friden, T. (2009). Animal rights activist on FBI's 'most wanted terrorists' list. CNN. Retrieved April 28, 2009 from <http://www.cnn.com/2009/CRIME/04/21/fbi.domestic.terror.suspect/index.html>.
- Grasmick, H. G. & Bursik, R. J. (1990). Conscience, significant others, and rational choice: Extending the deterrence model. *Law and Society Review*, 24(3), 837-861.
- Grasmick, H. G. & Green, D. E. (1980). Legal punishment, social disapproval, and internalization as inhibitors of illegal behavior. *Journal of Criminal Law and Criminology*, 71(3), 325-335.
- Guha, R. (1989). Radical American environmentalism and wilderness preservation: A third world critique. *Environmental Ethics*, 11(1), pp. 71-83.
- Hays, S., Esler, M., & Hays, C. (1996). Radical environmentalism and crime. In S.M. Edwards, T. D. Edwards, & C. B. Fields (Eds.), *Environmental crime and criminality* (pp.163-182). New York: Garland.

- Hewitt, C. (2005). *Political violence and terrorism in modern America: A chronology*. Westport, CT: Praeger Security International.
- Hildebrand, D. H. & Ott, R. L. (1998). *Statistical thinking for managers*. Pacific Grove, CA: Duxbury Press.
- Hoffman, B. (1995). "Holy terror": The implications of terrorism motivated by a religious imperative. *Studies in Conflict & Terrorism*, 18(4), 271-284.
- Jarboe, J.F. (2002). *Congressional testimony before House Resources Committee, Subcommittee on Forests and Forest Health*. Retrieved October 24, 2007, from FBI Web site: <http://www.fbi.gov/congress/congress02/jarboe021202.htm>.
- Jensen, G. F., Erickson, M.L., & Gibbs, J. P. (1978). Perceived risk of punishment and self-reported delinquency. *Social Forces*, 57(1), 57-78.
- Kelling, G., Pate, T., Dieckman, D., Brown, C. (1974). *The Kansas City Preventative Patrol Experiment: A Summary Report*. Washington, D.C.: Police Foundation.
- Kovandzic, T. V., Sloan, J. J., Viertaitis, L. M. (2004). 'Striking out as crime reduction policy: The impact of 'three strikes' laws on crime rates in U.S. cities. *Justice Quarterly*, 21(2), 235-239.
- Kubrin, C. E., Stucky, T. D., & Krohn, M.D. (2009). *Researching theories of crime and deviance*. New York, NY: Oxford.
- LaFree, G. & Ackerman, G. (2009). The empirical study of terrorism: Social and legal research. *Annual Review of Law and Social Science*. Forthcoming.
- LaFree, G. & Dugan, L. (2004). How does studying terrorism compare to studying crime? *Terrorism and Counter-terrorism: Criminological Perspectives, Sociology of Crime, and Law and Deviance*, 15(1), 53-75.
- (2007). Introducing the Global Terrorism Database. *Terrorism and Political Violence*, 19(2) 181-204.
- LaFree, G., Dugan, L., & Korte, R. (2009). The impact of British counterterrorist strategies on political violence in Northern Ireland: Comparing deterrence and backlash models. *Criminology*, 47(1), 17-45.
- Landes, W.M. (1978). An economic study of U.S. Aircraft Hijackings, 1961-1976. *Journal of Law and Economics*, 21(1), 1-31.
- Leader, S. H. & Probst, S. H. (2003). The Earth Liberation Front and environmental terrorism. *Terrorism and Political Violence*, 15(4), 37-58.

- Lewis, J. (2005). *Congressional testimony before Senate Committee on Environment and Public Works*. Retrieved October 24, 2007, from FBI Web site: <http://www.fbi.gov/congress/congress05/lewis051805.htm>.
- Liddick, D. R. (2006). *Eco-terrorism: Radical environmental and animal liberation movements*. Westport, CT: Praeger.
- Lum, C., Kennedy, L.W., & Sherley, A.J. (2006). *The effectiveness of counter-terrorism strategies*. Oslo, Norway: Campbell Collaboration.
- Maxwell, C. D., Garner, J. H., Fagan, J. A. (2002). The preventative effects of arrest on intimate partner violence: Research, policy, and theory. *Criminology & Public Policy*, 2(1), 51-80.
- McDowall, D., McCleary, R., Meidinger, E. E., Hay, R. A. (1980). *Interrupted time series analysis*. Thousand Oaks, CA: Sage.
- Miller, J.A. & Millere, R.M. *Eco-terrorism and eco-extremism against agriculture*. Arlington, VA: Miller.
- Mueller, R. S. (2006). *Operation Backfire press conference*. Retrieved October 24, 2007, from FBI Web site: <http://www.fbi.gov/pressrel/speeches/mueller012006.htm>.
- Mueller, R. S. (2007). *Congressional testimony before the Senate Select Committee on Intelligence*. Retrieved October 24, 2007, from FBI Web site: <http://www.fbi.gov/congress/congress07/mueller011107.htm>.
- Nagin, D. & Paternoster, R. (1993). Enduring individual differences and rational choice theories of crime. *Law & Society Review*, 27(3), 467-496.
- Nagin, D. & Pogarsky, G. (2003). An experimental investigation of deterrence: Cheating, self-serving bias, and impulsivity. *Criminology*, 41(1), 167-194.
- National Consortium for the Study of Terrorism and Responses to Terrorism. (2009). Global terrorism database: GTD variables and inclusion criteria. Retrieved May 15, 2009 from the START website: <http://www.start.umd.edu/gtd>.
- Paternoster, R. (1987). The deterrent effect of the perceived certainty and severity of punishment: A review of the evidence and issues. *Justice Quarterly*, 4(2), 173-217.
- Paternoster, R. & Simpson, S. (1996). Sanction threats and appeals to morality: Testing a rational choice model of corporate crime. *Law & Society Review*, 30(3), 549-583.

- Perlstein, G. (2003). Comments on Ackerman. *Terrorism and Political Violence*, 15(4), 171-172.
- Pogarsky, G. (2002). Identifying “detrable” offenders: Implications for research on deterrence. *Justice Quarterly*, 19(3), 431-452.
- Pratt, T. C., Cullen, F. T., Blevins, K. R., Daigle, L. E., Madensen, T. D. (2006). The empirical status of deterrence theory: A meta-analysis. In F. T. Cullen, J.P. Wright, & K. R. Blevins, *Taking stock: The status of criminological theory* (pp.367-398). New Brunswick, NJ: Transaction Publishers.
- Pridemore, W. A. & Freilich, J. D. (2007). The impact of state laws protecting abortion clinics and reproductive rights on crimes against abortion providers: Deterrence, backlash, or neither? *Law and Human Behavior*, 31(1), pp. 611-627.
- Seattle Times. (2009). Chronological FBI summary of terrorist incidents, 1980-2004. Seattle Times. Retrieved October 12, 2009 from [http://seattletimes.nwsourc.com/news/local/links/fbi\\_table.html](http://seattletimes.nwsourc.com/news/local/links/fbi_table.html).
- Sherman, L. W. & Berk, R. A. (1984). The specific deterrent effects of arrest for domestic assault. *American Sociological Review*, 49(2), 261-272
- Sherman, L.W., Schmidt, J. D., Rogan, D. P., Smith, D. A., Gartin, P. R., Cohn, E. G., Collins, D. J., Bacich, A. R. (1992). The variable effects of arrest on criminal careers. The Milwaukee domestic violence experiment. *Journal of Criminal Law and Criminology*, 83(1) 137-169.
- Sherman, L.W., Rogan, D. P., Edwards, T., Whipple, R., Shreve, D., Witcher, D., Trimble, W., Velke, R., Blumberg, M., Beatty, A., Bridgeforth, C. A. (1995). Deterrent effects of police raids on crack houses: A randomized, controlled experiment. *Justice Quarterly*, 12(4), 756-781.
- Shevory, T. C. (1996). Monkeywrenching: Practice in Search of Theory. In S.M. Edwards, T. D. Edwards, & C. B. Fields (Eds.), *Environmental crime and criminality* (pp.183-204). New York: Garland.
- Simone, J., Freilich, J. D., & Chermak, S. M. (2008). *Surveying state police agencies about domestic terrorism and far-right extremists*. College Park, MD: National Consortium for the Study of Terrorism and Responses to Terrorism.
- Simpson, S. S., Bouffard, L. A., Garner, J., & Hickman, L. (2006). The influence of legal reform on the probability of arrest in domestic violence cases. *Justice Quarterly*, 23(3), 297-316.
- Smith, B.L., Cothren, J., Roberts, P., & Damphousse, K. R. (2009). *Terrorism in time and space*. Washington, D.C.: National Institute of Justice.

- Smith, B. L. & Damphousse, K. R. (1996). Punishing political offenders: The effect of political motive on federal sentencing decisions. *Criminology*, 34(3), 289-319.
- (1998). Terrorism, politics, and punishment: A test of structural-contextual theory and the 'liberation hypothesis.' *Criminology*, 36(1), 67-92.
- (2009). Patterns of precursor behaviors in the life span of a U.S. environmental terrorist group. *Criminology and Public Policy*, 8(3), 475-496.
- Smith, B. L. & Morgan, K. D. (1994). Terrorism right and left: Empirical issues in profiling American terrorists. *Studies in Conflict and Terrorism*, 17(1), 39-57.
- Smith, B. L. & Orvis, G. P. (1993). America's response to terrorism: An empirical analysis of federal intervention strategies during the 1980s. *Justice Quarterly*, 10(4), pp. 661-681.
- Smith, R. (2008). "Eco-terrorism?" A critical analysis of the vilification of radical environmental activists as terrorists. *Environmental Law*, 38, 537-576.
- Taylor, B. (2003). Threat assessments and radical environmentalism. *Terrorism and political violence*, 15(4), 173-182.
- Thatcher, D. (2005). The local role in homeland security. *Law and Society Review*, 39(3), 635-676.
- Tittle, C. R. (1969). Crime rates and legal sanctions. *Social Problems*, 16(4), 409-423.
- Thomas, J. (1993). *Doing critical ethnography*. London: Sage.
- Trujillo, H. R. (2005). The radical environmentalist movement. In B. A. Jackson and J. C. Baker (Eds.), *Aptitude for destruction: Case studies of the organizational learning activities of five major terrorist groups and a methodology for ascertaining what and why they learned*. Santa Monica: RAND Corporation.
- U.S. Department of Justice and U.S. Department of Agriculture. (1993). Report to Congress on the extent of domestic and international terrorism in animal enterprises. *The Physiologist*, 36(6), 207-208.
- Vanderheiden, S. (2005). Eco-terrorism or justified resistance? Radical environmentalism and the "War on Terror." *Politics and Society*, 33(3), 425-447.
- Vanderheiden, S. (2008). Radical environmentalism in an age of antiterrorism. *Environmental Politics*, 17(2), 299-318.
- Varriale, J. A. (2007). Proceedings from ASC 07': The threat of groups with an ecological-based motivation: Terrorism or just monkeywrenching? Atlanta, GA.
- Vold, G. B., Bernard, T. J., & Snipes, J. B. (2002). *Theoretical criminology*. New York: Oxford University Press.

- Walker, A. B. (2007). A field of failed dreams: Problems passing effective ecoterrorism legislation. *Villanova Environmental Law Journal*, 18, 99-118.
- Welchman, J. (2001). Is ecotage civil disobedience? *Philosophy & Geography*, 4(1), 97-107.
- Wheatley, J. & McCauley, J. (2008). Losing your audience: Desistance from terrorism in Egypt after Luxor. *Dynamics of Asymmetric Conflict*, 1(3), 250-268.