

THE REGULATION THAT COMES FROM COMBINATION: THE EFFECTS OF
COMBINING MULTIPLE POLICY AREAS WITHIN A SINGLE ENVIRONMENTAL
PROTECTION AGENCY IN THE STATES

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Chapter 1: Introduction and a Theory of Environmental Agency Design

Introduction

The management of multiple tasks could be considered a hallmark of modern bureaucracies. We would be hard-pressed to find an agency that deals with a single program, let alone a single task. However, as James Wilson (1989) states in his seminal work, *Bureaucracy*, “the cost of trying to do everything is that few things are done well.” Indeed, as Wilson goes on to say, when the goals or cultures within an agency conflict with one another, certain tasks will fall to the wayside. More simply, the combination of multiple program areas will hurt at least one of the programs. And, it is the agency’s assessment of how closely each program aligns with long-standing agency preferences and bureaucratic culture that will determine which program flourishes and which program suffers. Many agencies struggle to reconcile competing goals and tasks, and how they reconcile their competing mandates shapes the way agencies implement policies. This is the premise that motivates my project.

In the chapters that follow, I consider a group of bureaucratic agencies that implements one of the broadest arenas of programs and policies: state-level environmental protection agencies. Environmental protection agencies in the American states are not uniformly designed/structured. In 30 states, environmental protection policies are implemented by state-level agencies that are organized to mirror their federal counterpart, the Environmental Protection Agency (EPA). However, in 15 states, environmental protection policies are implemented by agencies that implement both environmental protection and natural resource conservation programs. And, in five states,

Throughout the subsequent discussion, I argue that the choice to nest environmental protection programs within natural resource conservation or public health agencies helps protect and maintain an anti-enforcement culture that is inherent in natural resource conservation and public health approaches to environmental protection. The preferred natural resource conservation approach to enforcement prioritizes cooperation and flexibility with regulated entities, and the preferred public health approach specifies that enforcement actions are only necessary when a considerable risk to human health has been established. These approaches differ quite drastically from the EPA's view of enforcement, in which they see enforcement as a "central part" of "protect[ing] human health and the environment" (EPA 2016, "Enforcement Goals). The EPA seeks to engage in "*tough* civil and criminal enforcement for violations that threaten communities and the environment" (ibid). The dominance of these anti-enforcement cultures within combined agencies is, then, reinforced by the unique and localized economic pressures placed on state-level bureaucrats and the power of bureaucratic path dependence. Even political principals may not be able to easily penetrate the anti-enforcement status quo. As long as the combination lasts, the anti-enforcement sentiment remains and strengthens in its resolve.

The evidence I present supports this theoretical story. Through case studies of the Missouri Department of Natural Resources and the Kansas Department of Health and Environment, I establish that long-standing views surrounding the utility of enforcement actions continues to manifest in present-day agency decision making. Additionally, it is apparent from my interviews with combined environmental agency workers, that an established anti-enforcement sentiment within their agencies has an effect on day-to-day

enforcement decisions. Environmental regulators often feel out of place among natural resource conservation and public health programming, and they frequently feel the pressure to conform to the anti-enforcement sentiment of their agency, providing more flexibility and leniency with polluters. Moving beyond illustrations and anecdotes, I find more concrete evidence that the combined environmental agency design helps maintain an anti-enforcement sentiment. The language of combined environmental agencies' communications with the public more closely mirrors less regulatory federal agencies, such as the Department of Interior and the Department of Health and Human Services, in contrast to the EPA. This anti-enforcement sentiment appears to translate to actual implementation decisions, as I also find that combined agencies assess violations less frequently and punish them with less intensity—even in the face of political pressures from legislatures and governors. The effects are most prominent when environmental protection is combined with natural resource conservation.

Although the story I tell, here, is one about the power of agency design, the possible implications go far beyond establishing that organizational decisions matter. They do, and that has been well established by the existing literature. The findings I present in this dissertation are important because they help to illuminate a dilemma about federalism, a dilemma that has far-reaching consequences in terms of human health.

Because of the partial preemption setup in American environmental policy, where the federal government forms environmental standards, and the state governments create programs to implement those standards, state governments are able to make different choices about how to execute environmental protection programs. This is apparent by the vast variation that exists in environmental indicators, such as those listed in Table 1.1.

States differ in environmental spending, the number of inspections they perform, and how or if they punish industry for violating environmental rules.

Existing literature establishes that states with stronger environmental programs are better at containing pollution (Ringquist 1993; Ringquist 1995) and maintain higher levels of citizen health (Woods et al. 2009). Thus, differences in environmental protection choices, such as those portrayed in Table 1.1, likely translate into differences in health. While environmental federalism helps to ensure that government matches the correct solutions to problems that vary greatly by geography and population, it also can create inequities. States choose how to design their environmental agencies, and if agency design affects the implementation of environmental policies, agency design choices have implications far beyond the conventional dialogue of design as a means of political control or design as a means of consolidating government.

Roadmap of Chapters

As I briefly outlined above, this dissertation consists of five chapters. In the remainder of Chapter 1, I weave my theoretical story, describing in detail the power of organizational design in shaping the culture and value systems of bureaucratic agencies. I, then, discuss how the management of multiple tasks can result in the kind of uncertainty that makes agency sentiment and culture powerful forces. It is, here, that I dissect the differences between the EPA's approach to environmental protection, the natural resource conservation approach, and the public health approach. As I elaborate on the unique pressures state-level bureaucrats face, it becomes clear that not only is lenient enforcement a large part of the culture that natural resource conservation and public

health bring to combined agencies, all state-level environmental workers are susceptible to local economic pressures, which reinforces combined agencies' culture of lenient enforcement. Additionally, I describe how enduring agency designs may further insulate and reinforce conservation and public health cultures, even in the face of political control.

In Chapter 2, I illustrate the causal mechanism in my theory through case studies and interviews. My case studies of the KDHE and the MODNR emphasize the importance of agency origins and how an agency design choice can protect powerful bureaucratic cultures that motivate day-to-day decision-making. These case studies also provide concrete anecdotes that support the differences in environmental protection approaches between natural resource conservation, public health, and the command and control approach utilized by the EPA.

Table 1.1: Environmental Policy Implementation Statistics by State (2011-2013)

	Average Percentage of Facilities Inspected	Average Percentage of Inspections Ending in Enforcement	Average Total Penalty Amounts (per number of polluting facilities)	Average Environmental Spending (per capita)
Alabama	85%	5%	\$309.55	\$63.46
Alaska	28%	7%	\$444.55	\$113.07
Arizona	38%	13%	\$2,376.01	\$18.06
Arkansas	76%	18%	\$408.51	\$17.67
California	54%	25%	\$810.37	\$180.12
Colorado	25%	31%	\$1,264.79	\$47.92
Connecticut	24%	45%	\$390.88	\$7.68
Delaware	49%	21%	\$1,632.19	\$143.73
Florida	47%	13%	\$427.83	\$79.68
Georgia	29%	20%	\$116.43	\$20.93
Hawaii	84%	20%	\$809.05	\$42.13
Idaho	13%	56%	\$214.98	\$156.10
Illinois	30%	46%	\$685.58	\$19.87
Indiana	42%	19%	\$811.79	\$46.52
Iowa	22%	30%	\$18.82	\$10.00
Kansas	59%	9%	\$313.03	\$26.07
Kentucky	52%	22%	\$1,631.86	\$49.51
Louisiana	26%	80%	\$2,746.35	\$27.97
Maine	36%	16%	\$884.93	\$56.00
Maryland	40%	23%	\$903.78	\$58.56
Massachusetts	15%	53%	\$313.29	\$18.60
Michigan	30%	23%	\$110.20	\$41.98

Minnesota	26%	39%	\$1,023.69	\$172.72
Mississippi	36%	28%	\$905.03	\$3.61
Missouri	60%	9%	\$77.45	\$67.00
Montana	20%	54%	\$834.74	\$59.18
Nebraska	46%	12%	\$336.30	\$3.13
Nevada	27%	31%	\$429.99	\$40.45
New Hampshire	24%	70%	\$595.85	\$35.17
New Jersey	26%	81%	\$912.37	\$16.25
New Mexico	12%	92%	\$1,431.73	\$36.16
New York	12%	32%	\$282.45	\$50.41
North Carolina	96%	9%	\$129.04	\$16.36
North Dakota	20%	1%	\$87.39	\$111.27
Ohio	33%	24%	\$609.95	\$7.95
Oklahoma	18%	13%	\$479.35	\$3.56
Oregon	48%	26%	\$316.06	\$113.34
Pennsylvania	63%	32%	\$1,535.41	\$13.80
Rhode Island	26%	87%	\$1167.41	\$96.65
South Carolina	53%	17%	\$335.55	\$142.37
South Dakota	82%	1%	\$0.00	\$36.59
Tennessee	83%	12%	\$382.97	\$54.65
Texas	27%	48%	\$2,563.63	\$15.44
Utah	45%	14%	\$245.11	\$96.47
Vermont	36%	6%	\$5.26	\$142.36
Virginia	29%	11%	\$429.70	\$93.06
Washington	72%	50%	\$1,956.96	\$46.39
West Virginia	52%	15%	\$1,408.87	\$30.92
Wisconsin	23%	7%	\$668.26	\$43.55
Wyoming	29%	31%	\$1,554.70	\$275.43

My interviews with combined environmental agency workers help demonstrate how an agency-wide anti-enforcement sentiment can exert pressure on bureaucrats, in turn, influencing their willingness or ability to use particular enforcement tools, such as fines. These exploratory case studies and interviews provide preliminary support for the argument that I formulate in Chapter 1 and are the basis for the hypotheses I more explicitly address in Chapters 3 and 4.

In Chapters 3 and 4, I test two main components of my theoretical story: that the choice to nest environmental protection within natural resource conservation or public health programming helps maintain an anti-enforcement culture and that the combined agency design impacts the frequency and intensity with which agencies penalize industry. To test the proposition that the combined agency design helps protect an anti-

enforcement culture, I construct an enforcement sentiment score, using a content analysis technique created by Laver et al. (2003). By looking at the way agencies speak to the public about their priorities, goals, and activities, I am able to assess how closely their enforcement preferences align, in comparison to the EPA. This is one way to measure the willingness of agencies to use enforcement tools.

Once I find support for my proposition that agency design affects the way environmental agencies feel about enforcement tools, I test my second proposition—that the combined agency design affects enforcement actions. By looking to the effect of agency design on the severity agencies assign to violations and the penalties that are assessed, I find support for design's effect on enforcement actions. Combined agencies categorize a lower percentage of violations as severe and assign lower penalties to violators, in response. Additionally, I find that agency design, particularly the natural resource conservation combination, maintains an effect, even when I take the current political context of states into consideration. The conventional wisdom that the politics of a state drives regulatory behavior has merit; however, bureaucracy-specific characteristics, such as organizational design, are powerful motivators of behavior, as well.

In the conclusion of this dissertation, Chapter 5, I assert three main points. First, the organizational design of environmental agencies affects the way agencies feel about and utilize enforcement actions. Specifically, when states house natural resource conservation and environmental protection programs within the same agency, flexibility and cooperation with industry is encouraged, and leniency is given, in terms of penalization. Second, these differences in environmental protection approaches likely

translate into differences in environmental outcomes. Although I do not explicitly test the assertion that more leniency with industry results in weaker environmental protection, existing research suggests this may be the case. As we gain a greater understanding of how agency design shapes agency outputs, we should also seek to understand how these organizational decisions affect long-term health outcomes. And, finally, I conclude my dissertation by emphasizing that we cannot adequately tell a story about regulatory differences without considering how the institutions bureaucrats work within shape their behavior. Scholars of regulatory behavior continue to predict bureaucratic behavior by looking to outside pressures, ignoring the calls of Maynard-Moody and Herbert (1989) and Meier and O'Toole (2006) to consider how complex bureaucratic institutions directly affect the implementation of policies.

A Theory of Environmental Agency Design

In the discussion that follows, I formulate a theory of environmental agency design, drawing from the literatures of political science, public administration/policy, and organizational analysis. I describe the theory as follows. First, I describe the evolution of environmental protection policies in the United States that set the stage for a variety of environmental agency design choices. Two of the three possible environmental agency design choices involve the combination of environmental regulatory programs with another policy area—either natural resource conservation or public health.

In the second part of the chapter, I describe how combining policy areas helps to reinforce any existing agency cultures—cultures that powerfully and continually shape the behavior of bureaucrats. In the case of environmental agencies, natural resource

conservation and public health programs bring powerful cultures that embrace more lenient and flexible approaches with industry. As I illustrate, these environmental protection approaches differ fundamentally from those approaches championed by the EPA, particularly in regards to enforcement.

Finally, in the last part of the chapter, I describe other factors that help to ensure the continued dominance of public health and conservation agency cultures that value flexibility with industry. Specifically, I argue that state-level bureaucrats' propensity to favor more lenient approaches, due to their personal connection to the local economy, helps reinforce the flexibility and cooperation embraced by conservation and public health cultures. Additionally, I argue that the stability of agency design and difficulty of agency reorganization may help to insulate combined environmental agencies from political pressure. More simply, I argue that the combination of environmental protection with natural resource conservation or public health will encourage the use of more lenient enforcement approaches with industry, even given the existing political pressures in the state.

The Evolution of Environmental Agencies in the United States

As Layzer (2012) argues, there is a “clash of values at the heart of environmental policymaking” (2), and this clash of values dates back long before the formation of our modern regulatory environmental agencies. There were the transcendentalists, who touted the importance of preservation for one's spirituality; the conservationists, who urged the careful use of natural resources to increase their yields and benefit localities in the long term; the cornucopians, who emphasized the human ability to overcome environmental

problems through technological advances and the importance of the environment as it relates to property rights; and the deep ecologists, who argued that the quality of human life is dependent on the deep connection that we share with other forms of life. These differences in American environmental thought manifested into different environmental policies in the American states.

In the states, early environmental protection efforts can be split into two categories: efforts to conserve and protect natural resources and wildlife that have economic and personal value and efforts to assess and resolve public health risks related to harmful water sources, air pollution, and disease. States established geological surveys as part of natural resource conservation efforts and air and water control boards as part of public health efforts. These were the earliest forms of environmental protection in the United States. However, these early forms of environmental protection were not focused on controlling industry.

Environmental protection, as we know it today, is a relatively young set of policies and ideas. The monitoring and regulation of industry was a new mandate imposed in the early 1970's, in response to calls for environmental awareness (e.g., Rachel Carson's *Silent Spring*) and "numerous industrially related public health outbreaks" that led to "political demands for protection from environmental exposures to industrial emissions" (Kotchian 1997, 249). The establishment of the EPA and the passage of large-scale environmental legislation (i.e., The Clean Water Act, The Clean Air Act, Safe Drinking Water Act, Resource Conservation and Recovery Act/Hazardous and Solid Waste Amendments) occurred less than fifty years ago and developed the

emphasis on regulation and compliance that is now a pivotal part of modern-day environmental protection programming.

As a part of the United States' emerging emphasis on regulating and monitoring industry, states were expected to incorporate new regulatory mandates into existing environmental programming that historically embraced less regulatory approaches. This evolution in environmental programming from the conservation of valuable economic resources and the evaluation and treatment of public health risks to monitoring and regulating industry led to the creation of a diverse set of state-level environmental agencies.

As Burke et al. (1995) detail in their evaluation of environmental services in the United States, environmental control in the American states is complex. There is “no uniformity in the way states are organized to implement...major federal environmental statutes” (iv). This lack of uniformity is of note because “the success of national environmental policies depends upon the capacity of the states to implement them” (3). As the history of environmental agencies suggests, environmental protection is a multi-faceted area of policy, touching on issues of conservation, land management, health, and regulation. However, each state relies upon a single agency to implement the regulatory policies delegated to the states by the EPA. In thirty states, an agency dedicated entirely to pollution control efforts monitors industry and enforces federal and state environmental regulations. However, in the remaining twenty states (shown in Figure 1.1) environmental protection agencies implement programs beyond the scope of major, federal environmental statutes. The monitoring and regulation of industry is performed as a part of natural resource conservation or public health programming. This agency design

choice—to nest regulatory environmental programs within natural resource or public health programming—has enduring consequences.

Combined Agency Design and the Protection of Dominant Agency Cultures

The combination of tangentially related policy areas within a single bureaucratic agency is not uncommon. Combining policy areas ensures that “groups with similar missions and frequent working relations are grouped together...avoid[ing] conflicts of jurisdiction and permit[ting] far greater economy and efficiency in government” (Denhardt 2011, 60). While improved coordination and lower costs are often the justifications put forth by politicians for large-scale reorganizations of agencies that include consolidation, the management of multiple tasks creates a competitive and chaotic atmosphere within organizations.

In Wilson’s (1989) suggestions for improving bureaucracy to serve the public interest, he states the following:

People cannot easily keep in mind many quite different things or strike reasonable balances among competing tasks. People want to know what is expected of them; they do not want to be told, in answer to this question, that ‘on the one hand this, but on the other hand that...’ No single organization...can perform well a variety of tasks; inevitably some will be neglected ...Running multi-task conglomerates is as risky in the public as in the private sector (371).

Wilson’s criticisms of “multi-task conglomerates” can be boiled down into a simple statement: the less bureaucracies have to focus on, the better they will perform. The problem with multi-tasking is that it invites confusion and conflict. Organizational goals “lose clear meaning and become ambiguous when [they] invite a number of different

interpretations” (Chun and Rainey 2005, 531). When agency workers are presented with multiple and competing goals, they may not understand what they are supposed to accomplish and how they might work towards those accomplishments. As Wilson (1989) argues, this kind of uncertainty is often the basis for neglecting a certain set of tasks in the favor of another set of tasks.

Conflicting goals lead to neglect because a lack of clarity about the mission of an agency allows bureaucrats to prioritize some goals over others (Chun and Rainey 2005, 538; see also Perry et al. 1999). As with workers in any organization, when given multiple tasks, bureaucrats must decide how to allocate their time among those tasks. Incentives to perform tasks differ, however, so time and efforts are unlikely to be distributed equally (Dewatripont et al. 2000). Wilson (1989) argues that the incentive structures that guide bureaucrats to prioritize some tasks over others are part of agency culture. More simply, existing agency cultures often determine “which tasks are most important” (101).

Although a relatively abstract concept, organizational culture is a powerful motivator of employee behavior. In its most simple form, culture can be described as shared experiences that often lead to shared behaviors. This is illustrated by Schein’s (1990) definition of organizational culture:

Culture is what a group learns over a period of time as that group solves its problems of survival in an external environment and its problems of internal integration. Such learning is simultaneously a behavioral, cognitive, and an emotional process. Extrapolating further... the deepest level of culture will be the cognitive in that the perceptions, language, and thought processes that a group comes to share will be the ultimate causal determinant of feelings, attitudes, espoused,

values and *overt behavior* [emphasis added] (111).

According to theories of organizational behavior, to understand the choices workers make, you first have to understand the culture they work within, as it is the lens through which they see all of their goals and tasks. Agency culture—a seemingly invisible force that Wilson labels as “the way things are done around here”—offers direct cues to agency workers about what problems are important and what solutions are appropriate for addressing those problems.

In combined environmental protection agencies, there are multiple, competing cultures, as natural resource conservation, public health, and pollution control agencies define the purpose and appropriate methods of environmental protection differently. In the following, I briefly outline the different environmental protection approaches preferred within natural resource conservation and public health agencies, using the environmental protection approaches utilized by the EPA as a comparison point. Public health and natural resource conservation approaches to environmental protection differ greatly from EPA-style environmental protection, particularly in terms of their readiness to use enforcement tools. Following this comparison, I discuss how the choice to nest environmental regulation within natural resource conservation and public health cultures disadvantages regulatory programs, particularly those that involve enforcement.

The Public Health Approach vs. the EPA Approach

As Kotchian (1997) writes, “environmental health was one of the very earliest of organized public health activities” (246). In the United States, local public health

organizations formed in response to water-borne illnesses, air pollution, food sanitation, and sewer infrastructure problems spurred by the industrial revolution and rapid population growth. These public health organizations held primacy over a variety of early environmental protection efforts until the 1970s, when states began to reevaluate public health agencies' role in environmental protection. Two main factors separate environmental health programs and the environmental protection policies introduced in the 1970's: the reactive nature of public health and a growing public health focus on treatment and providing health care services.

Within public health agencies, environmental health efforts have traditionally revolved around the relationship between epidemiology and environment. For public health agencies, environmental protection has traditionally been a means of controlling disease. Epidemiologists use mass data collection efforts to identify environmental health risks, and solutions to environmental problems are formulated only when risks have been adequately identified. Any efforts are precipitated by the establishment of risk. In this way, public health agencies are primarily reactive.

This conflicts with the EPA's style of environmental protection because the regulatory actions performed by the EPA are primarily preventative. The EPA protects the environment by consistently monitoring industry and using penalties as a deterrent. The growing public cries in the 1970s for *protection* from polluting industries necessitated preemptive action, and public health agencies were not equipped or trained to consistently monitor and punish industry to prevent environmental degradation. Similarly, the EPA also seeks to protect wildlife and land—two things that may not immediately (or ever) present a definitive risk to human health. While risk assessment

helps the EPA to determine the scope of future regulatory statutes and actions, it is not a prerequisite for enforcement. Namely, the EPA does not directly have to prove that an industry has harmed human health in order to penalize the industry.

The second factor that has continued to define the difference between public health and EPA approaches to environmental protection is the growing role public health agencies perform in providing health care services. Health departments have begun to focus less on traditional public health programs, such as health education and sanitation, and more on “health care, hospital regulation, aid for the disabled, and Medicaid programs” (250). These programs focus on disease treatment rather than prevention. One current example of a growing emphasis on treatment is the active role many public health agencies have taken in working alongside other agencies in establishing health care exchanges during the implementation of the Affordable Care Act. Public health agencies have evolved into a health care liaison and provider.

These dissimilarities in perspective lead to differences in how the opposing policy cultures define the purpose of environmental protection programs and, importantly, the role enforcement ought to play. For example, from a perspective of treatment, as is the lens of public health, enforcement is a prescription, applied as needed and upon the establishment of some risk to human health. From a perspective of prevention, as is the lens of environmental regulation, enforcement is the mechanism by which we prevent environmental problems and deter industry negligence. Enforcement is a consistent course of action, not simply applied as needed to treat an established problem.

Most states have separated environmental regulation, making the growing differences between public health agencies and environmental protection agencies really

only an issue of coordination. However, for those agencies that have chosen the combined environmental protection and public health agency design, these growing differences are much more impactful. A single agency must navigate the very different cultures that exist within public health programming and environmental protection programming. Each culture employs regulatory programs with its own understanding about how best to protect the environment. These differences are even greater between the cultures of natural resource conservation and the EPA.

The Natural Resource Conservation Approach vs. The EPA Approach

Many states' economies are dependent upon the extraction and utilization of state natural resources, along with the recreational use of state lands. Thus, it is not surprising that a number of states' environmental protection efforts began as attempts to protect and conserve economically viable resources. It was in the economic interest of states to create programs that would prevent a 'tragedy of the commons.' However, as with public health programming, the move towards more regulatory environmental protection efforts in the 1970s was not an easy transition. Natural resource conservation programming and environmental protection programming mirror each other in their attempts to control certain types of behavior, such as the exploitation of natural resources or the excessive release of toxic emissions, respectively. However, while the two policy areas are rooted in regulation, the focus and purpose of regulatory programs are fundamentally different (for example, see Table 1.2). The regulatory tools used in natural resource conservation and environmental regulation differ in two main ways: (1) the emphasis on command and control and (2) what/whom is being protected and what/whom is being punished.

Table 1.2: Differences in Natural Resource Conservation Programming and Environmental Regulation Programming

Natural Resource Programming:	Environmental Regulation Programming:
<ul style="list-style-type: none"> -Maintaining state parks and associated recreational areas -Land restoration -Hunting and fishing permits -Oil and natural gas conservation and permitting -Timber conservation and permitting -*Wildlife control and conservation 	<ul style="list-style-type: none"> -Ambient air monitoring/enforcement -Water quality monitoring/enforcement -Toxic waste monitoring/enforcement -*Wildlife conservation and preservation

**Koontz (2002) points out that states are not adequate "protectors" of endangered wildlife. Their expertise is more so related to controlling wildlife for the purposes of hunting.*

The first way in which natural resource conservation and environmental regulation approaches differ is in their emphasis on command and control. Environmental regulation has been executed using the command and control method since the introduction of the EPA. In this method, rules and regulations are set, and then, agencies are expected to oversee and punish those subject to the rules/regulations. Those that are most often subject to the rules/regulations of the EPA are industrial facilities. This method is often seen as contentious because it is associated with negative punishment, rather than positive reinforcement. More simply, this means that rather than providing incentives to industry to cooperate, industry may be punished for their lack of cooperation. This creates a punisher-violator dynamic within environmental protection that often puts industry at odds with its regulators. In the states, this ultimately means that state agencies are expected to oversee and punish the industries that support their local economies.

Natural resource conservation approaches to environmental protection differ from the EPA's command and control approach. Natural resource conservation methods often

involve incentives; collaboration efforts between private landowners, industry, and government; and an emphasis on positively reinforced cooperation (Nie 2008). In fact, federal agencies that are directly involved with natural resource conservation, such as the U.S. Forest Service and the Department of Interior, have either expressed their frustration with regulation (USDA 2002; Nie 2008) or have revised environmental regulations to be more lenient when it comes to oil and gas exploration, development, and federal grazing (Luther 2006; Humphries 2004; 66 Fed. Reg. 54,834 2001; Nie 2008). While regulation is certainly a component of natural resource conservation, in that there are established rules for behavior, it often takes a back seat to other approaches that do not involve command and control.

The second way in which natural resource conservation approaches and environmental regulation approaches differ is in who/what is protected and who/what is punished. In the case of environmental regulation, the who/what that are being protected are often populations that live closest to pollution sources (populations that may be disadvantaged economically) and endangered wildlife. Industry is what is being punished. In this scenario, what is being protected potentially offers little economic benefit to the state, while what is being punished potentially provides a significant economic benefit. Natural resource conservation approaches are intended to protect natural resources, land, and, in some capacity, wild life. In terms of natural resources, things like timber, natural gas, and minable ores and minerals are all important components of state economies. If they are exploited, the state will eventually lose a portion of its economic base. Even in the case of wildlife, natural resource conservation tools typically protect wildlife for the purposes of hunting/fishing. This protection results

in tangible, material goods for the state and its residents. While there is less punishment involved in natural resource conservation than environmental regulation, the punishment that does occur is often to those that are exploiting resources, or, more simply, causing the state or its residents to lose money. Critical, here, is that while environmental regulation, by its definition, constrains a contributor to the economy, natural resource conservation protects contributions to the economy.

Once again, for those states that chose to separate their natural resource conservation programs from the more enforcement-based efforts of the EPA, these differences in preferred approaches are only an issue when the agencies are expected to coordinate—which, admittedly, happens frequently enough to warrant some level of concern. However, for combined natural resource and environmental protection agencies, these differences in preferences lead to a battle of values and preferences—a battle that one side ultimately loses.

The Combined Agency Culture

The introduction of environmental regulation into preexisting natural resource conservation and public health programming leads to a clash of cultures, and this clash of cultures likely disadvantages regulatory programs. The regulatory programs are disadvantaged because when a new task is introduced into an agency, if the new task is not fully in line with the existing bureaucratic culture, it will not receive the same attention or resources—a phenomenon Wilson refers to as ‘selective attention’ (101). As evidenced by my discussion above, the regulatory programs utilized by the EPA do not fit neatly within the cultures of public health and conservation.

In particular, these different cultures translate into very different views on the use of enforcement—or when it is necessary to compel industry action, through fines or other penalizations. There is a prominent anti-enforcement sentiment within both the natural resource conservation and public health cultures. To place environmental protection programming within existing natural resource conservation or public health frameworks ensures that the more enforcement-based environmental protection culture will be working against the anti-enforcement sentiment that is inherent to natural resource conservation and public health. As Wilson (1989) suggests, this means that enforcement programs will likely be neglected, as they do not fit into the existing culture. Thus, the natural resource conservation and public health cultures will continually shape the day-to-day decisions made by environmental agency workers in combined agencies. These workers will likely adhere to the dominant cultures within their respective agencies—cultures that oppose enforcement and/or embrace flexibility and cooperation with industry. Additionally, natural resource conservation and public health cultures likely remain dominant over time for two reasons: (1) agency design helps to insulate the agency from political pressures, and (2) all state workers experience a much more pronounced pressure than federal-level workers to consider the economic impacts of their decisions.

The Insulating Effects of Agency Design and Political Control

As Lewis (2003) points out, “agency design determines bureaucratic responsiveness to democratic impulses and pressure, particularly those channeled through

elected officials” (4). If we are to truly understand why bureaucracies are ‘politicized’ or completely unresponsive, we first have to understand their structures because structural choices have long-term consequences, shaping decision-making long after the motivations for a particular structural choice have faded. The organizational design of bureaucratic agencies is a powerful political decision because organizational designs can determine the direction of policy implementation.

For example, as Cohen et al. (2006) describe, the creation of the Department of Homeland Security (DHS) intentionally involved the movement of a large number of existing agencies (22 or so) within the jurisdictions of DHS, “instilling [the existing agencies] with new homeland security responsibilities without additional budgets” (673-674). The Bush administration understood that they could divert resources and attention from agencies and agency activities that they disapproved of by placing the agencies within a new organizational framework that pressed them to pursue “homeland security” goals and priorities. This would help the Bush administration to better control the actions of a number of bureaucratic agencies, and it would also limit the ability of future administrations and elected officials to allocate funding, resources, and attention to various programs—particularly those programs that were least related to homeland security goals. Once made a subordinate task within DHS, an area such as federal emergency management, would continue to play that subordinate role because bureaucracy is, by its very nature, highly path dependent. Path dependency means that bureaucratic agencies will adhere to the status quo, even in the presence of other (or better) alternatives (Meier et al. 2001; Robinson and Meier 2006). This path dependency is compounded by the fact that agency reorganizations, which could potentially redirect

agency goals and culture, are much costlier and create more friction than other forms of political control (Cohen et al. 2006, 688). This makes their use as a political control mechanism less convenient and, subsequently, less frequent.

In sum, agency design helps to insulate the agency from outside pressures, seeking to alter the agency's cultures and values. This insulation is a long-term effect and cannot easily be changed without large-scale and costly bureaucratic reorganizations. For combined environmental agencies, this means that the decision to nest regulatory environmental programs within natural resource conservation and public health programs likely has long-term effects, far beyond the political regimes that made the original agency design choice. Although the current politics of a state may affect some bureaucratic outputs, as Ringquist (1995) points out, things like agency culture and the overall direction of policy implementation are much less penetrable for elected officials. Bureaucracies are not simply "receptacles" for legislative/executive preferences (Maynard-Moody and Herbert 1989; Meier and O'Toole 2006). Legislative/executive preferences must filter, first, through powerful inner-agency variables that continually shape bureaucratic behavior. Thus, the current political context of a state likely matters less than the original design choice made, in some cases, more than forty years ago. Given that, two questions must be posed: what was the intent of the original agency design choices, and how might that choice compete with political control efforts exerted by present-day legislatures and executives.

In the remaining parts of this section, I will discuss, first, the limited role that agency design motivation plays in my theory and, second, why current political context is much less consequential than the original agency design choice.

Agency Design Motivations

In 2013, Sinclair and Whitford looked extensively at the motivating factors that drove the organizational designs of public health agencies in the American states. They found that combination of ideological and health condition factors motivated the choice to combine public health with regulatory environmental programs. The motivations behind the natural resource conservation combination are less clear. In sum, there is a very limited literature regarding the motivations behind environmental agency designs. That being said, though, there are a few important things to note about environmental politics at the time of many agency design choices (1970-1980).

The elected officials that opted for the combination of environmental protection with natural resource conservation and public health likely would not have anticipated how much the regulation of industry would come to define environmental protection. This is evidenced by the seemingly inconsistent environmental views of Republican and Democratic lawmakers in the League of Conservation Voter Scorecards from 1971-1975, along with Nixon's prominent role in the formation of the EPA and, shortly after, his efforts to constrain the EPA. The political lines about environmental regulation had not been clearly drawn during the time many states chose their environmental agency designs, so it is difficult, without an in-depth evaluation of legislative hearings, to determine how politically motivated combined agency designs really were. However, even if some environmental agency designs may have been politically motivated (as Sinclair and Whitford 2013 suggest about public health agencies), the very high cost of large-scale bureaucratic reorganizations and the path dependent nature of bureaucratic

agencies make the consequences of agency design enduring, far outlasting the political motives that spurred the original design choice and challenging the political pressures of today.

Thus, while although the intent behind agency design is an important part of the story—agency motivations can explain why we see the dominant cultures that we do—the focus of my research is on the *consequences* of these agency design choices. Regardless of their motivations, it is likely that these choices have long-term effects due to the insulating effects of agency design. Even more importantly, these effects likely challenge the *current* political and special interests in the states, which challenges the existing conventional wisdom that political principals’ (legislators’ and executives’) preferences will largely drive the behavior of regulatory agencies.

Challenging the Conventional Wisdom: Political Control is not the Only Motivator

It is a widely accepted American narrative that a more conservative government will favor less stringent environmental regulations. Upon searching the phrase “Republicans and environmental regulation,” the following headlines appear: “G.O.P. Assault on Environmental Laws,” “House Republicans Crusade to Destroy Environmental Regulations,” “10 Environmental Regulations the Republican Congress Wants to Kill.” The ideological divide is clear within popular media: Republicans want less regulation, and Democrats want more regulation. And, this popular narrative is not without academic support. Students of political science and public policy/administration have attributed the regulatory differences among the states to political control, as well. Atlas (2007) finds that states controlled by Republicans fine industries that violate

environmental standards less than states whose elected institutions are controlled by Democrats. Additionally, Hedge and Johnson (2002) show that regulation declines under unified Republican control of Congress and the presidency.¹ In general, even when ideological disposition is not considered, scholars have acknowledged that “value conflicts” between states and the federal government “carry over into the implementation processes, subject[ing] [states] to contending political pressures” (Welborn 1988, 39). More simply, political control can affect the outputs of environmental agencies (Ringquist 1995).

Elected officials pressure bureaucratic institutions through a variety of control mechanisms, the strongest of which is usually referenced as budgetary authority (Wood and Waterman 1991); thus, it is not unreasonable that environmental agencies might bend to the preferences of state legislators and even governors. However, as I have reiterated throughout this section, the preferences of elected officials must filter through the culture that a combined agency helps to protect. Thus, the choice to nest environmental protection within the existing cultures of public health and natural resource conservation agencies likely ensures that those cultures will shape the choices of employees, even in the face of current political control efforts. Politics is certainly part of the story, but it is not the entirety, as much of the previous literature suggests.

Agency design’s insulating effects help to maintain the anti-enforcement cultures of public health and natural resource conservation, even as the world changes around the agencies. Another factor that helps to protect the dominance of public health and natural

¹ Although, it tends to recover from the initial dip—one reason Hedge and Johnson (2002) argue that Reagan’s attempts at deregulation were ultimately unsuccessful.

resource conservation cultures within public health agencies are the unique economic pressures faced by all state-level bureaucrats.

State-level Economic Pressures

One thing that separates state-level environmental workers from their federal counterparts in the EPA, is that state-level regulators think their decisions about regulation affect local industry. In a 2008 evaluation of state-level regulator attitudes, Konisky surveyed environmental bureaucrats in merit-based positions to discern how they felt about their work and its consequences for local industry. Although others (namely Engel 1997) have surveyed environmental bureaucrats in the past, Konisky's survey does not focus on political appointees. Civil servants are much less likely to provide political answers and run the day-to-day operations of the agency. Konisky's (2008) survey shows that about 71% of environmental workers "indicated that environmental regulation was either a fairly or a very important factor in facility location decisions," and about 55% of the respondents "indicated that relaxing [regulatory] standards would have a positive effect on the competitiveness of companies in their state relative to companies in other states" (330-331). Although those working in the federal-level EPA are surely aware of the jobs versus environment dynamic within their work, the economic pressures placed on state-level bureaucrats are unique, in that they are highly localized; we ask that these workers regulate the economy to which their livelihood is connected.

Konisky's (2008) findings align nicely with the arguments made by Koontz (2002), as he describes the difference between federal- and state-level management of

public land and natural resources—particularly forests. Koontz argues that although theories of functional federalism—that different levels of government are more or less capable of delivering certain kinds of economic or regulatory policies—are used in regards to legislators, the pressure that legislators face may indirectly affect the bureaucracy, as legislators pressure bureaucrats through a variety of control mechanisms. Additionally, bureaucrats will face the pressure of the local community/communities—communities that differ greatly in their preferences for environmental protection. For example, Koontz (2002) points out that citizens living near forests are more likely to support using those forests for economic benefits, while those living further away from forests are likely to support the preservation of those forests through stricter regulation. Additionally, there are real monetary incentives that exist, particularly within natural resource conservation, that place pressure on bureaucrats to regulate *pragmatically*. In the Pacific Northwest, “every million board-feet of timber sold is linked to a dozen local jobs annually,” and portions of revenue coming from timber taken from public forests is actually given back to nearby communities to fund infrastructure, education, and other community needs (Koontz 2002, 36; see also Satchell 1996; Gilless et al. 1990). To regulate with more intensity, then, may serve to limit the funds available to local communities. Thus, for states whose economies depend upon natural resources, the pressure to be more flexible and cooperative with local industry is likely even more pronounced.

Summarily, *all* state-level bureaucrats face unique economic pressures, as they attempt to regulate industries that make up their local economy and help to support many components of their lives and the lives of those they care about. Compounded by

Konisky's (2008) findings that environmental bureaucrats are aware of the relationship between their regulatory behavior and the economy, there are significant incentives for all state-level bureaucrats to be more flexible with and to cooperate more with local industries, incentives that are less consequential for their federal counterparts at the EPA. Although these economic pressures affect all state-level bureaucrats, within combined agencies, economic pressures likely help to reinforce the dominant anti-enforcement culture that is already inherent within combined environmental agencies. Additionally, it is plausible that these pressures are even more consequential in states, where the local economy is highly dependent upon polluting industries or natural resource extraction, as bureaucrats should be even more keenly aware of the connection between their regulatory actions and the health of the local economy.

In short, the theory of environmental agency design that I present above states that the choice to nest regulatory environmental programs within public health and natural resource conservation programs helps to protect and maintain the powerful anti-enforcement cultures inherent to those policy areas. The insulating effect of agency design and the unique economic pressures felt by state-level workers help to reinforce the dominance of the anti-enforcement culture within these agencies. Even in the face of a changing world, politically, environmentally, and industrially, we should continue to see the effects of agency design.

Concluding Thoughts

The bureaucratic structures that house our environmental protection programs are relatively young. The environmental protection agencies that monitor industry did not

exist until the formation of the EPA in 1970. However, many of these agencies were preceded by long-standing bureaucratic agencies and boards that sought to protect the environment by identifying public health risks and conserving valuable land and natural resources. The values and cultures of these preceding agencies did not simply vanish in 1970 with the establishment of the EPA, and for states that chose to nest a new regulatory role within those existing value systems and cultures, regulatory enforcement aimed at industry did not fit well. Indeed, the evidence I present in the subsequent chapters supports that, in a variety of ways, these agencies have continued to try to conform enforcement actions to the bureaucratic cultures of public health and natural resource conservation—cultures that embrace cooperation and flexibility with industry.

Additionally, the unique economic pressures placed on state-level bureaucrats and the long-term consequences of agency design continue to reinforce the dominance of natural resource conservation and public health cultures. Agency design decisions have enduring effects, and in the following chapters, I seek to dissect how environmental agency design decisions have affected the enforcement choices agencies make, today. Considering all of the inside and outside pressures that can potentially shape these implementation decisions, I argue that the combined agency structure helps to maintain the anti-enforcement sentiment that is inherent to natural resource conservation and public health approaches to environmental protection. To return to Wilson's principle that a multi-tasking agency is an agency failing at something, I posit that agencies implementing both natural resource conservation/public health and environmental protection fail to implement regulatory policies in the way the EPA has directed—with plenty of enforcement.

In the Chapters Ahead

In response to the establishment of the EPA and the passage of large-scale environmental regulatory mandates, states reorganized their environmental programs to accommodate new regulatory programs. For some states this meant creating an entirely new agency, while for others it meant a reorganization of existing environmental programs. In the chapters that follow, I address the following question: how does the choice to nest regulatory programs within pre-existing programs, such as natural resource conservation or public health programs affect enforcement decisions. In the next chapter (Chapter 2), I address this question by illustrating how the combined agency structure helps to maintain an anti-enforcement sentiment and how that sentiment shapes the day-to-day decisions of bureaucrats, using in-depth case studies and interviews with environmental workers.

Chapter 2: The Maintenance of Anti-Enforcement Sentiment: Case Studies on Environmental Agency Design

Upon the establishment of the EPA in 1970 and large-scale amendments to existing federal environmental legislation (i.e., the Clean Air Act and Clean Water Act), many states reorganized their bureaucratic agencies to accommodate new regulatory programs. While many states chose to establish a new agency to implement regulatory programs, some states chose to nest the new regulatory responsibilities within their existing environmental protection structures—public health agencies and natural resource conservation agencies. The central question addressed in the remaining chapters is the following: how does this design choice affect regulatory decisions, particularly in terms of enforcement.

The theory I presented in Chapter 1 can be summarized in two main parts: (1) the combination of two policy areas with competing ideas about environmental protection helps to protect the anti-enforcement cultures inherent to natural resource conservation and public health approaches to environmental protection. And, (2) the unique economic pressures faced by bureaucrats reinforce their attachments to the anti-enforcement culture, ensuring that this sentiment continually affects the day-to-day enforcement decisions made by bureaucrats. This should continue to be the case over time, regardless of the political context of the state, because of the path dependent nature of bureaucratic agencies.

In this chapter, I seek to illustrate both parts of my theory, using case studies and interviews with environmental agency workers. In my case studies of the Kansas Department of Health and Environment (KDHE) and the Missouri Department of Natural

Resources (MODNR), I describe how the origins of these agencies as a public health board and natural resource conservation board, respectively, helped to create and maintain an anti-enforcement culture. I, then, describe how, for each state, this status quo has been maintained, even with the addition of regulatory program areas following 1970. I use the Illinois Environmental Protection Agency (IEPA), as a point of comparison for the agencies in Missouri and Kansas. Additionally, through my interviews with environmental agency workers, I illustrate how the anti-enforcement culture in combined agencies places pressure on bureaucrats to prioritize more flexible and cooperative approaches with industry, even sometimes at the cost of pollution control.

Case Studies: The Missouri Department of Natural Resources, the Kansas Department of Health and Environment, and the Illinois Environmental Protection Agency

In the first section of this chapter, I take an in-depth look at the evolution of the MODNR and the KDHE. These two agencies were both formed in the early 1970s, in response to the establishment of the EPA and the subsequent introduction of regulatory programs. Both Missouri and Kansas chose to take advantage of existing public health and natural resource conservation structures to house the new regulatory programs of the 1970s. Although each state followed a different path to the environmental protection programs they employ today, both Missouri and Kansas have faced criticism for their leniency with industry (see, for example, Dillon 2013; Nelson 2010; Dillon 2011; Associated Press 2011; Off 2007; Barker 2015). It is for this reason that I have chosen to look more closely at these two states to determine how the choice to locate environmental protection within natural resource conservation/public health programming has helped to

protect an anti-enforcement status quo. This has been the case in each state, regardless of changes in government that have often placed Democrats in the office of the governor. In the end of this section, I juxtapose these agencies to a pollution control agency, the IEPA, to illustrate how MODNR and KDHE differ in culture and preferences from agencies that are designed to match the EPA.

The case studies will be organized in the following way. First, I will describe the historical origins of the agency. Second, I will discuss how this legacy has shaped the way the agency has approached environmental protection. The case studies are followed by a short discussion about each state's struggles to cope with allegations that their environmental agencies are too lenient with local industry. Finally, I will discuss the IEPA and how its origins, behavior, and critiques differ from MODNR and KDHE.

The Origins of the Missouri Department of Natural Resources

Missouri is a state with an abundance of natural resources, including fertile farmland; ores, such as iron, lead, coal, and limestone; and even a small amount of oil and gas near the state's borders. It is because of this abundance of natural resources that the state legislature created the Geological Survey of Missouri in 1853 to study Missouri's natural resources and to create a "thorough geological and mineralogical survey of the state so [the state] would know what was useful or valuable" (Balkenbush 2014, 12). The creation of the Geological Survey was Missouri's first step in establishing the administration of environmental protection programs and policies. Upon the evaluation of natural resources, Missouri also discovered that its public lands had substantial recreational value. This prompted the creation of the state park fund in 1917,

another pivotal part of early environmental protection efforts in Missouri. Following the creation of the park fund, Missouri acquired land for its first state historic site—Arrow Rock Tavern in 1923—and its first state park—Big Spring State Park in 1924. It would not be until 1943 that Missouri took steps toward establishing modern-day environmental standards (Balkenbush 2014).

Missouri's first step towards modern-day environmental protection occurred in 1943, with the creation of the Soil and Water Districts Commission, intended to “further soil conservation practices on the farms of the state. The commission maintained oversight of the soil and water districts” (Balkenbush 2014, 10). Even this initial step was focused on conservation efforts, rather than pollution-control. Missouri's first pollution-control efforts came in 1955 and 1958, as the state established its first solid waste law, and the Water Pollution Board was established within the Department of Public Health and Welfare.

However, it is important to note two things about these preliminary pollution-control measures. First, the County Option Dumping Ground Law, Missouri's first solid waste law, was only adopted by 22 of the 114 counties in the states. Second, water pollution was dealt with exclusively within the arena of public health prior to the establishment of the MODNR in 1974. Thus, early pollution-control efforts were not popular within the state and treated as a separate mandate from larger, natural resource conservation efforts.

In 1974, Missouri created the MODNR in response to federal environmental policy changes, a lack of quality drinking water, and growing problems with smog and hazardous waste (Balkenbush 2014). During this large agency reorganization, new

environmental regulations, focused on the control of pollution through the regulation of industry, were incorporated into historically strong natural resource and conservation programs that had been operating for over 120 years, at that time. Although an environmental regulatory apparatus existed in the state pollution boards, the state chose to relocate pollution control responsibilities into natural resource conservation programming, rather than to create a new agency dedicated to pollution control. This decision would shape the direction of Missouri's programming into present times.

A Lasting Legacy of Conservation and Flexibility with Industry

With the creation the Geological Survey and the state park¹ fund as Missouri's initial steps toward protecting the environment, it is clear that environmental protection in Missouri is rooted in the protection and preservation of lands and resources that Missourians deem economically and aesthetically important. This sentiment is reflected in current Missouri programming, as well. In MODNR's 2015-2020 Strategic Framework, a publication of MODNR's goals, priorities, and plans for the next five years, the department states that it intends to achieve "its goals through partnerships, working with diverse interests from all parts of Missouri to support [its] mission and to better serve the public and manage [Missouri's] natural and cultural resources" (3). Partnership and cooperation are strong themes in Missouri's approach to environmental protection. MODNR's strategic plans consistently refer to the importance of "education," "outreach," and "communication," in "assist[ing] the department in building awareness

¹ Missouri state parks have remained a part of the Department of Natural Resources, Missouri's environmental protection agency, even with the advent of the Department of Conservation.

and encouraging appropriate actions that result in a better quality of life for everyone” (8). Indeed, MODNR states the protection of health, well-being, and safety of Missouri citizens is a top priority, but the department actively relates these actions to “stewardship” of resources and the fostering of “collaboration and innovation within the department and with [the department’s] stakeholders” (6). More simply, the focus of Missouri’s environmental protection goals is on management through cooperation with industry, rather than through enforcement.

As I related in Chapter 1, a strong emphasis on partnership and cooperation is a central component to the natural resource conservation approach to environmental protection. Thus, it is not unexpected that MODNR, with historical roots in the preservation and conservation of natural resources and public recreational lands, would prioritize environmental protection approaches that emphasize partnership and cooperation with stakeholders, including polluters. This is important to note, as environmental regulation in Missouri is performed almost exclusively by MODNR, and, yet, the publicly embraced focus of the agency, as related by the agency, is the stewardship of natural resources (Balkenbush 2014). In support of this vision, Andrea Balkenbush, MODNR’s chief of planning, wrote that “advances in science and technology will continue to help [Missourians] all be better stewards of natural resources. Because Missourians value their natural resources and the quality of life they provide, the Department of Natural Resources continues to fulfill its mission with broad public support” (13).

The embraced mission of natural resource conservation at MODNR that emphasizes flexibility with industry is also made clear by the fact that words such as

‘regulation,’ ‘control,’ ‘polluter,’ or ‘pollution’ do not appear throughout the state’s 2015-2020 strategic plan, except in reference to a goal to provide “compliance assistance to the *regulated* community,” as “the department’s enhanced compliance assistance program simplifies the *regulation* process and provides greater access to the resources necessary to help...customers thrive and succeed” (5). Any statements regarding enforcement are prefaced by MODNR’s reliance on “compliance assistance tools,” as the preferred option and the first step in response to pollution violations. To provide a more thorough example of compliance assistance tools, we can look to the collaborative adaptive management approach MODNR used to address water quality issues in Missouri’s Hinkson Creek. This approach helps to illustrate Missouri’s dedication to using a natural resource conservation framework to address environmental problems.

Since 1998, Hinkson Creek, a 26-mile stream that runs through the Columbia, Missouri area, has been on MODNR’s list of impaired waters—meaning it does not meet EPA Clean Water Act standards. In 1999, the EPA assessed that the creek’s impairment was due to stormwater runoff, bringing “insecticides, herbicides, chloride, heavy metals, and waste oil into the creek” (Ogden 2013). Shortly after this assessment, the Missouri Sierra Club and the American Canoe Association sued the EPA for failing to require MODNR to address the urban stormwater runoff problem. The city of Columbia, Boone County, and the University of Missouri countered the suit by claiming that the required 39.5% reduction in urban stormwater runoff suggested by the EPA would be “all but impossible to achieve” (ibid). After a multi-year negotiation process, the EPA and MODNR agreed on a collaborative adaptive management approach to help clearly identify the root causes of the pollution and to assess possible solutions.

The collaborative adaptive management approach is a “science-driven, stakeholder-based process for decision-making...using a continuing process to make changes and then to determine the effect of those changes.” It is a “science-based approach guided by a local stakeholder committee” (MODNR 2012, 1). An important component of this approach is the participation of local stakeholders, including industry representatives and environmental advocates. Working together with scientists, the stakeholder committee “represent(s) the community, recommend(ing) actions, monitoring, and modeling...for implementation” (4). The collaborative adaptive management process is a response to the EPA’s earlier assessment of Hinkson Creek. The EPA suggested a large-scale cleanup that would have cost millions for dollars. MODNR, along with the city of Columbia and other local actors, challenged this assessment, requesting that they be able to perform their own set of analyses, using the collaborative adaptive management approach. This approach allows MODNR to assess the problem, while also considering the preferences of stakeholders. The collaborative adaptive management process extends flexibility and cooperation with local industry, making this approach a good fit for a natural resource conservation culture that embraces partnership with industry. The EPA’s process does not prioritize the preferences of local stakeholders.

MODNR proudly acknowledges the state’s long history of protecting valuable state resources and lands. These environmental protection efforts, according to the state, help to support the economy and are the focus of much of MODNR’s programming. Missouri’s dedication to natural resource conservation approaches are apparent in MODNR’s prioritization of stakeholder-inclusive approaches to environmental

protection. MODNR's strategic plans and publications express the importance of education, cooperation, and flexibility, and the state approaches its environmental problems, using processes, such as the collaborative adaptive management process, to address environmental problems in the state. As the chief of planning for MODNR states, "even 161 years [after the creation of the MO Geological Survey], mineral resources and mining in [the] state are important natural resource protection issues and crucial to the [state] economy" (Balkenbush 2014, 12). And, this continued dedication to emphasizing the protection of natural resources has proved greatly influential in determining how environmental protection is approached. Enforcement efforts are not easily placed within the natural resource conservation framework put forth by MODNR. A similar story can be told about the KDHE.

The Origins of the Kansas Department of Health and Environment

The state of Kansas was "an early national leader in state health programs," starting with the establishment of its State Board of Health in 1885 (Shepherd et al. 1999, 12). The origins of environmental health functions within Kansas's health programs can be traced back to the Bureau of Sanitation, which served as one of the major divisions of the State Board of Health, focusing primarily on drinking water quality, waste water, and solid waste management in the 1950s. As Shepherd et al. (1999) points out, the Bureau of Sanitation was loosely related to the University of Kansas's School of Engineering, as the focus of the Board's activities were considered to be "engineering-based disciplines" (13). In fact, the Board's staff even worked in the basement of KU's School of Engineering. It is the Bureau of Sanitation that would eventually become the Division of

Environment within the modern-day KDHE.

Following the creation of the EPA in 1970, Kansas considered creating an independent environmental agency; however, “it was ultimately decided that environmental activities in Kansas would remain overseen by the Board of Health” (14). There was great reluctance on the part of many public health officials to remove environmental programs from the purview of public health boards, in which human health was the top priority. In 1974, Kansas took on a large-scale reorganization of its state government, creating a cabinet system that included a new Kansas Department of Health and Environment. Although there were arguments for a separate pollution-control agency that included concerns for the secondary role environmental health played in public health agencies, environmental regulation programs would be implemented as a part of public health program. As Shepherd et al. argue, it was the “recognition of the inextricable relationship between health and environment” that motivated Kansas’s choice to place new regulatory programs under the purview of the state’s public health bureaucracy.

Over the years, state officials have challenged the combined public health and environmental protection structure of KDHE on at least three separate occasions (with debates from 1992-1993, constituting one occasion). Arguments have centered primarily around the lack of focus placed on environmental protection programs over the past four decades. Proponents of a separate agency have argued that environmental programs receive less resources and attention within public health and that public health officials are not equipped to inspect and monitor industry activity (Shepherd et al. 1999).

The Influential Public Health Framework in the KDHE

The federal expansion of the environmental agenda from 1960-1970 “to include recreational values of the environment; sustaining and protecting wildlife...protecting endangered species; protecting unique ecosystems; and aesthetic values” emphasized an already growing mismatch between the goals of public health officials and environmental regulators (28; see also Harkins and Baggs 1987). In Kansas, this distance has grown even further, as KDHE has taken the lead on implementing health care finance programs (i.e., managing the Affordable Care Act within Kansas). Indeed, environmental protection appears to be only a small part of the programming implemented by the KDHE.

In KDHE’s 2011-2012 Annual Reports, KDHE spoke about public health programs and issues significantly more than environmental regulation (Hopper 2013). The primary focus of KDHE, as related by annual reports, appears to be disease control, through immunization programs; educating the public; health surveillance; and sanitation efforts. This preference for public health (and now, also, health finance) programs is also reflected in KDHE’s spending. Environmental expenses make up less than 3% of KDHE’s (2013) total budget.² It is clear from KDHE’s annual reports and budget that environmental protection is only one of many tasks within a large and diverse agency. Thus, as I described in Chapter 1, this makes the environmental programs in KDHE

² It is important to note that KDHE has taken control over health finance, which now makes up just short of 90% of KDHE’s expenditures.

susceptible to a more dominant public health culture. So, what might environmental protection from a public health perspective look like?

Like MODNR, KDHE often refers to efforts to “minimize burdens and costs associated with” regulation, advocating for the facilitation of “technical training and guidance to facility operators” (KDHE 2013, 9). Although KDHE references regulatory actions more frequently in their annual reports than the MODNR does within the strategic frameworks and annual reports I cited above, regulatory actions are routinely justified as helping to make sure that there is “an even playing field for new businesses to start up” and that “the risk of starting a new business venture becomes lower” (11). They seek to achieve compliance “at minimal cost” (11) and claim to have “facilitated an increase of business activity in the State with new construction projects and business expansion at current industrial sites” (7). Additionally, KDHE emphasizes that their reduction in air pollutants is specific to those pollutants that “impact public health” (7). More simply, KDHE argues that their regulatory actions are both business friendly and aimed at environmental problems with established human health risks.

One example of KDHE’s ‘business-friendly’ approach is the stakeholder-inclusive Watershed Restoration and Protection Strategy (WRAPS) that mirrors MODNR’s collaborative adaptive management approach. The WRAPS is described as a “process [that] offers a framework that engages citizens and other stakeholders in a teamwork environment aimed at protecting and restoring Kansas watersheds” (Kansas WRAPS 2011). In partnership with Kansas natural resource agencies, KDHE implemented WRAPS to ensure that citizens and stakeholders are able to provide input. In this strategy, industry is able to have a seat at the table. The regulators are in

partnership with regulated entities. This approach is very similar to the collaborative adaptive management approach used by MODNR, in which partnership with local industry is valued. Once again, the EPA does not prioritize the preferences of local stakeholders, during their evaluation of possible solutions for environmental issues.

In sum, the KDHE revels in a strong public health legacy, and the introduction of environmental regulation programs into a long-standing public health framework in the state introduced a number of issues. The state-wide initiatives and regulations utilized by public health programs could not be used to handle geographically defined environmental problems. Additionally, funding for each program differs greatly. Environmental regulation programs receive most of their funding from the federal government (the EPA); whereas, public health programs are reliably funded by county taxes. These examples reflect only two of many points of contention within KDHE. With differences in implementation strategies and differences in motivation, KDHE workers are subject to the influence of the agency's long-standing, dominant culture: public health. The culture's dominance is apparent in KDHE's focus on public health and health finance programs and their reluctance to speak of regulatory actions that are not prefaced by an assessment of human health risk or are not accompanied by alleged economic benefits. For both Kansas and Missouri, this focus on flexibility/cooperation with industry and a definition of enforcement as an action of last resort, has brought sharp criticism over the years.

Allegations of Leniency by MODNR and KDHE

Neither MODNR or KDHE have escaped public scrutiny about their environmental protection programs. In Missouri, former MODNR employees have stated that the agency “lacks the ‘political appetite’ to strongly enforce state laws and a culture where employees are threatened with discipline if they talk to the media or the public” (Barker 2015). Additionally, at least one employee has stated that MODNR has a ‘cozy’ relationship with regulated entities, a relationship that does not provide a service to Missouri citizens. In the *St Louis Post-Dispatch*, Barker (2015) reported that MODNR provided summaries of conference calls between MODNR, the Sierra Club, and Washington University’s Interdisciplinary Environmental Clinic, along with other information, to Ameren, without Ameren filing a records request. Ameren is a large holding company based in St. Louis, Missouri for a group of electric, energy, and power corporations. More simply, MODNR has been accused of providing more information to regulated entities than it is willing to provide to the public, giving the perception of collusion between regulators and polluters.

Barker’s (2015) investigative report is not the first time MODNR has come under fire for withholding information or colluding with regulated entities. In 2010, MODNR director Mark Templeton, appointed by Democratic Governor Jay Nixon, resigned after MODNR delayed releasing water quality results that showed elevated E.coli levels in the Lake of the Ozarks, a large revenue source for the state’s economy. Additionally, in 2007, *The Columbia Tribune* reported that more than 4,000 pages of documents contained evidence that MODNR “levied civil penalties against large water-polluting animal farms, only to later reduce the penalties to about a quarter of the original amount”

(Off 2007). In Off's (2007) article, former employees and Missouri citizens referred to penalties as "lax" and stated that Missouri "is easy," in regards to getting away with violating environmental standards. MODNR's response to many allegations of leniency with industry are that "cuts in penalty amounts are a balancing act...while enforcing the state's environmental laws, [MODNR] also wants to help develop Missouri's economic development potential" (ibid). Additionally, representatives from MODNR state that the agency always takes part in a negotiation process, working with industries to assess the parts of a problem that were truly the fault of the industry and to make sure that first-time offenders are given flexibility. These responses speak to MODNR's emphasis on flexibility and cooperation.

For KDHE, one recent scandal has placed the department into the national spotlight. In 2006, the Sunflower Electric Power Corporation announced that it would build three additional coal plants to accompany an existing coal plant in Holcomb, KS. Although the proposal for a permit was eventually amended to only include one new plant and approved by KDHE permittees, KDHE Secretary Rodney Bremby unilaterally denied the permit in 2007, stating that he had concerns over greenhouse gas emissions levels. After many years of then-Kansas Governor Kathleen Sebelius vetoing bills that would have allowed the plant to be built, upon the entrance of her successor, Governor Mark Parkinson, the permit was allowed for reconsideration, and Bremby was removed in 2010. In December of 2010, KDHE decided to issue the permit. In words that sound eerily similar to the allegations made against MODNR, the *Kansas City Star* reported that "Sunflower officials and KDHE regulators had a cozy relationship and Sunflower was writing many of the responses to public comments that KDHE received from individuals

and organizations. KDHE used the Sunflower responses as its own” (Dillon 2011). The *Star* also reported that KDHE employees worked overtime, even on the weekends, to make sure that the permit would be approved before new federal air regulations that would potentially stop the project would be implemented in January 2011. It is important to note that agency workers were working towards the approval of the permit, even before Bremby was replaced in 2010.

Upon a lawsuit filed by the Kansas Sierra Club, EPA officials claimed that KDHE ‘incorrectly informed the [Kansas Supreme] Court’ about the EPA’s assessment of the plant’s potential health risks and that KDHE did not comply with the Clean Air Act (Lawrence Journal 2011). According to Karl Brooks, head of the EPA’s Region 7, the EPA would scrutinize not just the permit but the “whole decision-making process that produced a permit” (Lawrence Journal 2010). As in Missouri, KDHE officials denied wrong-doing and pointed to the economic benefits of pushing the coal plant through the process. The permit was ‘negotiated’ for economic benefit, and health risks were established to be within an acceptable range. These justifications align well with the culture of KDHE that I described previously. Regulatory stringency is necessary only upon proof of human health risk, and cooperation and flexibility with industry is a priority.

It is not unusual for environmental agencies to be accused of having “cozy” relationships with regulated entities. This is especially the case in more conservative states, where environmental activists are looking closely for evidence of watered-down regulation. However, the allegations I outlined in this section illustrate an important point about the complications that may arise from placing environmental regulatory programs

within agency cultures that value partnerships and negotiation with local industry. As was the case in both Missouri and Kansas, the EPA and its centers of implementation—state agencies—are quickly put at odds with one another when flexibility and cooperation with industry appears to overtake regulatory standards. And although the EPA funds a large portion of regulatory programs in the states, the dominant, anti-enforcement sentiment within public health and natural resource conservation agencies can directly affect environmental regulation decisions.

If this is the result of combination, what, then, might we expect from an agency designed like the EPA? In contradiction to the MODNR and KDHE, within an agency that is purely dedicated to pollution control, I expect regulators to enforce regulatory standards uniformly across violators, without much negotiation. The state of Illinois, like Kansas and Missouri, is highly dependent upon natural resources and agriculture. Thus, its environmental protection agency acts as a nice comparison for the two in-depth case studies above.

The IEPA and the Pivotal Role of Enforcement

Illinois's environmental protection agency was the first state agency in the United States to be entirely dedicated to environmental protection and pollution control. Workers from the Illinois State Sanitation Board and the Illinois Department of Public Health came together in 1970 to form the IEPA and begin operations. As with the federal-level EPA, the state points to Earth Day, the environmental movement, and growing problems with industrially produced pollutants as the motivator behind the IEPA's formation. Although the IEPA notes that polluters were first very reluctant to adhere to the newly

formed environmental standards, the agency states that the state enjoyed “tremendous progress and improvement in the environment in [the] first decade” of the agency’s existence (“History of the Illinois EPA” 2015). IEPA’s strong start is reflected in their continued tough stance on environmental issues.

While MODNR and KDHE are fairly reluctant to mention enforcement actions, the IEPA points to their enforcement programs as a way to ensure that “laws to protect the environment are carried out” (IEPA Biennial Report 2011-2012). In their 2011-2012 Biennial Report, the IEPA points to 346 enforcement referrals to the Illinois Attorney General, 61 cases referred to the EPA, 322 enforcement orders, \$9 million in penalties, and the issuance of 1,983 violation notices as evidence of its continued efforts towards enforcement and compliance (58).

In addition, while IEPA is critiqued, like MODNR and KDHE, for being too lenient with polluters—particularly the coal industry—the agency is also widely critiqued for being not lenient enough. For example, the Illinois Beef Association has accused the IEPA of bending too much to the preferences of the EPA, rather than thinking of the needs of local farmers (Mariano 2014), and citizens have expressed frustrations with the agency for mandating expensive sewer plant expansions that they say have become the financial responsibility of small towns and their citizens (Cortes 2015). In 2014, a number of industries joined together to oppose the creation of emergency rules to deal with petroleum coke, a solid material that is the result of the oil refining process and can be used as a fuel source in power plants (The City of Chicago 2014). The industries implied that the rules “could mean job losses in the oil industry” and that the IEPA “conflated” petroleum coke and coal in order to “avoid the mandatory notice and

comment rulemaking process for proposed regulations related to the handling of coal” (Lydersen 2014).

For MODNR and KDHE, enforcement is only a small and ‘as needed’ part of the regulatory process. However, in the state of Illinois, strong enforcement has long been a pivotal part of the state’s regulatory process. In the early 1970s, the state separated pollution control into an agency all of its own, in order to prioritize environmental issues, and this choice appears to have kept IEPA much more in line with the regulatory processes championed by the federal-level EPA—so much so, in fact, that local industries, farmers, and citizens have pointed to the IEPA as simply another hand of the federal government and an avenue for federal enforcement efforts. IEPA does suffer some of the same critiques as other state-level agencies; the agency is thought to be sympathetic to coal interests, in particular. However, this is not to be unexpected, given the localized economic pressures felt by *all* state-level bureaucrats that I elaborated on in Chapter 1. The primary difference between IEPA and MODNR and KDHE is that the combined agencies appear to be less willing to embrace enforcement. They certainly do not go to great lengths to publicize their enforcement actions—something the IEPA does explicitly in their annual reports of enforcement actions. Although the IEPA may be more sympathetic to local industry than the federal EPA, enforcement is still noted by the agency as a priority and a fundamental part of regulatory action.

Thus, from the above case studies, I have found support for two main propositions. First, I found support for the proposition that the origins of environmental protection efforts in a state can affect the way states view environmental protection over time. This was certainly the case in Kansas and Missouri, where environmental regulation

mandates were placed within strong public health or natural resource conservation programs. The dominant agency cultures within KDHE and MODNR have continued to shape the way both agencies choose to regulate, particularly in regards to their use of enforcement. Both KDHE and MODNR continue to value flexibility and cooperation with industry and see enforcement actions as a last resort. In comparison, IEPA's start as an independent pollution-control agency led to a more pronounced role for enforcement within the agency. Second, I found support for the proposition that this flexibility and cooperation with industry can potentially lead to more leniency with polluters within Kansas and Missouri. Although Illinois also suffered some of these criticisms, agency critiques from business were much more prevalent.

In the next section, I dissect this second point much further. I use illustrative examples from interviews with combined environmental agency workers to determine if and/or how the dominant public health and natural resource cultures within combined agencies subject workers to the pressure of anti-enforcement sentiment. These interviews help to clarify how the cultures of combined agencies translate into the kind of anti-enforcement decision-making I outlined in my case studies of the KDHE and MODNR.

The Effects of Combination on the Agency Worker

Over 2014-2016, I performed 12 in-depth interviews with environmental agency workers from combined agencies. In my interviews with these workers, most bureaucrats admitted that coordination and partnership between program areas in the agencies were pivotal to agency success; however, they were quick to point out that there were cultural divisions within the agency that made this kind of coordination and partnership difficult

to achieve. Whenever I asked workers about whether or not they thought their own personal goals aligned with agency goals, they frequently mentioned the difficulty in ascertaining what “agency-wide” goals were, with so many competing mandates. This conflicting goals, as Wilson (1989) argues, open the door for neglect, especially the neglect of programs that do not align with the agency’s dominant culture. Combined agency designs help to protect long-standing public health and conservation cultures. In the case studies above, I helped illustrate this by pointing to the anti-enforcement sentiment that still exists today in both the MODNR and the KDHE. However, to determine how that anti-enforcement culture translates into agency actions, we have to look more closely at how an anti-enforcement culture might pressure individual workers to align their actions to the agencies’ values. That is the purpose of the discussion that follows. Below, I will present examples from interviews with combined agency workers that help illustrate two points: (1) compliance without coercion (enforcement) is the preferred approach within combined agencies, and (2) this preference manifests in the values and beliefs expressed by combined agency workers and workers’ ability and willingness to engage in EPA-style enforcement. Prior to my description of the interview content, I will briefly describe the methodology I used in interviewing combined agency workers.

Interview Methodology

Ranging from 35 minutes to an hour and 25 minutes in length, I performed 12 interviews with environmental bureaucrats from combined agencies in five states and one

interview with an environmental bureaucrat from a pollution-control agency. The bureaucrats I interviewed ranged across a variety of employee types, from environmental scientists, epidemiologists, engineers, conservationists, and others. It is important to note that I purposefully chose to interview bureaucrats who did not work in high-level management positions. There is more stability in non-management positions, being that these employees are not replaced during transitions in state administration; thus, they are likely subject to the long-term effects of design.³

The content of the interviews dealt with their day-to-day work. I asked the bureaucrats what their goals were, how their goals related to the overall priorities of the agency, how supported they felt by local elected officials and their federal counterpart, the EPA, and what they thought about the combination of multiple policy areas and objectives under one environmental protection agency (see Appendix A for a list of the interview questions). In combination with more candid conversation, I was able to piece together a number of interesting anecdotes that help to describe the way that combined agencies approach environmental protection and how the combined structure affects their ability and willingness to use particular enforcement mechanisms.

³ Although ideally I would have also liked to interview workers from agencies designed as mini-EPA, because of the in-depth nature of the interviews, I was only able to interview one mini-EPA agency worker; that material has been excluded from my discussion until I am able to provide a more representative sample.

Less Coercive Compliance: The Preferred Environmental Protection Approach

While at the federal level, the EPA justifies the use of penalization as a means to encourage compliance, according to the majority of my interviewees, enforcement actions, such as penalties, are not always needed to encourage cooperation on the part of industry. For natural resource conservation and public health agencies, encouraging industries to comply with regulations involves a cooperative relationship between the agency and industry, where there is frequent interaction between regulators and regulated entities. Compliance programming focuses on education and outreach. The goal is to help industry into compliance—provide them with the information they need to be more cooperative on a voluntary basis. Enforcement is a last resort. In discussions with workers, it was clear that this approach to environmental protection—an approach that was not reliant on enforcement actions—is the preferred course of action for combined environmental agencies.

In every interview I performed, interviewees spoke of discrepancies in funding, attention, and dedication for certain agency tasks. Depending upon where you worked within the agency, you would have more or less support from upper management. Many of the workers I interviewed said that if you worked within a regulatory environmental program, you would receive the least amount of resources, attention, and support from the agency. Some interviewees spoke about this with anger, claiming that the lack of support of their division received undermined the mission of the agency. They spoke of how it felt to be deemed a dispensable part of the agency's mission, with Worker A making the following statement:

“I’ve been in this field for a long time, and when I started out, I was young and green and had high expectations and wanted to

conquer the world and save the environment. And, once you find out the reality of how things work, it's somewhat disappointing. I try to do everything I can to excel and make a difference, and I've been held back in my career. It's just the reality of things. I think there is a balance out there [between protecting the environment and protecting industry]; I think it could be reached at an additional cost, but it just seems like so many people that are in management positions are more interested in protecting their positions and not rocking the boat and maybe not making decisions they should be making... We obviously know that the state government wants government as small as possible, budget low as possible, and they just don't support environmental workers. That's pretty clear up front and demoralizing... The general public has no idea. They think there's an agency in the state protecting the environment, and, in some cases, it could not be further from the truth."

It was clear from each interview I performed that agencies were making consequential decisions about which programs were necessary to accomplish agency goals and which programs were tangential to the agency's mission. The belief that some approaches to environmental protection are superior to others is especially felt by those performing inspections and assessing penalties. Worker B even referred to herself as "a bad guy," in comparison to those working in less regulatory positions. Worker C claimed that their program received "little or no assistance or enhancement of [the program's] goals by the [overall] agency" because of the more regulatory nature of their specific program's work. Worker D mentioned that grant applications that included attempts to integrate environmental protection goals (e.g., climate change) into public health programming had been questioned extensively by agency upper-management. Those combined agency bureaucrats working in public health or natural resource conservation programs were quick to respond to allegations about agency preference for their less regulatory programs, stating things such as, "it is easier to "get into conversations with

[industry],” when you have “ongoing relationships,” fostered by finding “more cost effective ways to [help industry] stay in compliance.” Non-regulators did not deny that enforcement programs were a lower priority; they simply felt that enforcement was not the appropriate course of action for ensuring industry cooperation. Importantly, this agency-wide anti-enforcement sentiment appears to affect the way individual workers feel about enforcement actions and their ability and willingness to engage in such actions.

The Effects of Emphasizing Less Coercive Compliance

When asked whether or not policy areas such as natural resource conservation and public health should be separate from environmental regulation, Worker A stated that while “they can fit under the same umbrella, it really comes down to the policies and how they are implemented.” More simply, the policy areas are related, but how much they are related in practice depends upon policy implementation choices. Worker A went on to say that “if there was a focus that was strictly on enforcement, the managers would know that that was their sole job, and they would do much more enforcement. Other programs, more popular more voluntary programs—[the agency] emphasizes those—they try to downplay the negativity of enforcement.” From the perspective of this bureaucrat, enforcement could only be a viable option if it was the only option.

For workers of both combined public health and natural resource conservation agencies, the option of less coercive approaches appears to lead to more cooperation and flexibility with industry. Agency workers from combined agencies spoke freely and frequently in the interviews about the importance of “economic development,” “voluntary programs,” “smart development,” “interaction with stakeholders,” and

“reasonable regulation.” Although we might attribute some of this to pressure from elected officials, bureaucrats were quick to point out that although administrations may change, things “pretty much stay the same, regardless of who is at the top.” Additionally, these approaches appear to be ingrained in the agency’s standard operating procedures. Worker C stated the following about his home agency, a combined natural resource conservation agency: “there’s not really a strong regulatory emphasis. [The lack of regulatory emphasis] is not even spoken about. People just believe it’s there; it’s just naturally there—the way people think it should be.” More generally, although agency workers spoke about the existence of pressure to maintain a cooperative approach with industry, even sometimes in situations where they thought enforcement was a better alternative, the pressure was rarely directed and specific. Rather, the pressure mentioned by agency workers fell much more into the category of “the way things are done around here,” or what I have labeled as agency culture.

Additionally, this cooperative and stakeholder-inclusive approach to environmental protection was something that bureaucrats mentioned as a point of contention between the state agencies and the EPA. Workers mentioned that they were “probably more in touch with stakeholders than the EPA because” the state agencies “are in the trenches, and” they “are interacting with local industry,” regularly. Bureaucrats spoke of the disagreement surrounding which tools were the most appropriate for pursuing environmental protection goals, stating that state agencies “want flexibility,” while the EPA “sometimes wants [state agencies] to count beans, target certain facilities and sectors.” An agency worker argued that “there’s an understanding of the tools that [state agencies] have and their ability to use them, and sometimes there is disagreement

about which tools [state agencies] use and what they prioritize.” While state agencies were noted by their employees as willing to “entertain new ideas” and be “more innovative” with regulating and fining, Worker F noted that that state regulatory actions are “not always in sync with the EPA regulatory attitude.” Worker F argued that “the EPA knows what they want, so the literature and research they pick supports what they want. The opinions that come out of the EPA are not as objective, it seems. [State agencies] have much better context with local industry.”

These alleged differences between the EPA and state agency approach to regulating industry are exacerbated further by funding streams, according to environmental agency workers. Programs that emphasize enforcement are primarily funded through the EPA and are, thus, subject to the EPA’s goals and preferences. In turn, those programs are less supported by the state and state agency, according to workers, who state that “there are programs that the agency isn’t particularly interested in, but federal funding may drive what programs [certain divisions] of the agency focus on.” State money is, instead, diverted into programs that the public likes—programs that “are not regulatory in nature, for one thing, and [that] provide assistance and recreation throughout the state.” Once again, state agency workers emphasized that because there is another option for state funding to go to within the agency—namely less regulatory public health or natural resource conservation programming—the combined agencies are motivated to emphasize those programs. Additionally, public health and natural resource conservation programs are often funded by “state revenue,” garnered from various state and county taxes. These funds, according to one interviewee are relatively reliable. Environmental regulation programs, which are funded primarily by “pollution and permit

fees” and “EPA grants” are much more subject to fluctuations in the national political environment. Therefore, bureaucrats, as I also mentioned previously, are incentivized to pay close attention to public preferences—the source of funding, via taxes, for the agency that is much more stable.

Thus, in combined agencies, the availability of less regulatory tools for protecting the environment, tools that downplay the use of penalties and fines and emphasize incentives and flexibility, allows for and encourages bureaucratic agencies to deemphasize traditional EPA-style enforcement. As suggested by the interviews I performed, bureaucratic workers are aware of the public’s and state government’s hesitancy to accept environmental protection approaches that may jeopardize local economic development, and they are aware of the reliability of funding for less regulatory public health and natural resource conservation programs. The agencies’ preference for natural resource conservation and public health approaches to environmental protection create a sentiment within combined agencies that aids those working within less regulatory programs and may constrain those working outside of those programs. Additionally, while some bureaucrats may be in favor of more stringent environmental regulation, they argue that the EPA actually complicates their ability to perform their jobs. The EPA’s approach to environmental protection is so far outside what their state agencies are willing to consider that the pressure to pursue federal environmental regulation mandates often makes regulatory workers and their respective programs into even greater outcasts.

Interestingly, when asked if environmental regulation should be separated from public health and natural resource conservation, bureaucrats were hesitant to commit to a

separate agency. This hesitancy is one of the strongest indicators of the dominance of the natural resource and public health cultures within the agencies. It is a strong indicator because although bureaucrats admitted they felt like outcasts, thought leniency with industry may go too far, or admitted that enforcement programs were likely to be stronger within a separate agency, they were not sure whether or not stricter regulation was always the answer to environmental protection issues. These combined agency bureaucrats, particularly those involved in regulatory programs, argue that while they they think their respective agencies are sometimes too lenient with polluters, they also see “*helping* industries into compliance [emphasis added]” as a pivotal part of protecting the environment. It is “the way things are done around here,” *and* an approach that most workers are hesitant to disavow. More simply, working within the bureaucratic cultures of public health and natural resource conservation appears to have affected the *values* of individual bureaucrats. The combination of public health and natural resource conservation approaches to environmental protection with regulation undoubtedly shapes employees’ perception of how environmental protection should be performed. They are part of an agency culture, which exerts strong effects on their personal values and beliefs.⁴

⁴ Although I was only able to interview a single worker from a pollution-control agency, it is important to note that this worker was extremely hesitant to embrace a combined structure, suggesting that the agency could lose power over particular programs if it were to be combined with, for example, an agriculture agency. This reluctance to change is another illustration of how powerful the attachment to agency culture, values, and beliefs can be for bureaucratic workers.

Concluding Thoughts

In this chapter, I focused, first, on two agencies that have maintained a combined environmental agency structure since the 1970s. The historical evolution of these two agencies, along with their choices in regard to the allocation of resources and how to approach unique environmental problems, suggests that combination likely leads to the creation of a distinctive sentiment within the agencies. Agency decisions about enforcement are not made with haste. Rather, these agencies take into consideration a number of alternatives before resorting to enforcement through penalization.

The justification for the prioritization of less coercive compliance methods surely differs between the two agencies. For Missouri, a history of preserving economically important natural resources and public lands has also shaped the state's understanding of what purpose regulation ought to serve. Environmental protection programs are designed to help industry continue to be lucrative, while also maintaining the resources Missouri's economy relies upon.

For Kansas, if the calculated risk of pollution to human health is not high, the agency's awareness is not warranted. Regulation is a means to serving public health; it is not a means of controlling industry. Although the reasons behind KDHE's and MODNR's reluctance to use enforcement tools that penalize industry differ, the result is the same. Both states have routinely expressed dedication to working in close partnership with local industry, and they have also faced sharp criticism for those partnerships. There is a strong anti-enforcement sentiment within KDHE and MODNR, a sentiment that has been protected and encouraged by the choice to place regulatory environmental programs within long-standing public health and natural resource conservation cultures.

In the second part of the chapter, I explored more closely how the anti-enforcement culture in combined agencies translates into pressure on non-management workers. Through a number of interviews with bureaucratic officials, it was apparent that not only does an anti-enforcement culture exist but that it is so ingrained in the agency that day-to-day decision making is affected. The support and resources workers receive within the agency and their ability and willingness to pursue federal regulatory mandates are all deeply impacted by their agencies' respective understandings of the purpose of regulation and the desired outcome of environmental protection. The culture is ingrained enough within the combined agencies the interviewees work within that the workers are unsure of the plausibility or effectiveness of separating environmental regulation and strengthening enforcement. While they admitted that the environment may be at risk, each interviewee was concerned about the consequences of strict enforcement—the kind of environmental regulation they associated most closely with the EPA.

Although the limited number of case studies and workers—only from combined agencies—makes it impossible to claim that this feeling is entirely unique to those workers in combined agencies, in an environmental protection agency designed like the EPA, enforcement will be a key environmental protection tool. Enforcement and compliance are not opposing forces. When organization differs from the EPA, agencies are likely to value the regulatory approaches that are embraced by the dominant culture within those agencies. Pressure will, of course, come from elected officials and the public, likely encouraging or discouraging the use of certain regulatory approaches. However, those outside pressures must, first, filter through the sentiment of an agency—a

sentiment shaped by a decision made (often, long ago) about where to locate regulatory programs.

It is important to note the limitations of the case studies and interviews I present in this chapter. Although looking closely at the historical origins and preferences of combined agencies and combined agency workers allows me to gain an in-depth understanding of how combined agencies and their workers compare and contrast, I am unable to directly compare these agencies and workers to mini-EPA or pollution control agencies and workers. For example, it is possible that all state agency workers value collaboration with local industry, to some degree. This actually fits in with my theoretical story that all state-level workers are subject to localized economic pressures. To adequately discern how these combinations spur differences in bureaucratic outputs, I must compare across all environmental agency design types. This is the focus of the remaining chapters.

In the next chapter, I use the information gained from these case studies and interviews to construct a set of testable hypotheses. Specifically, I test that the combined agency design helps to preserve a dominant anti-enforcement culture. I measure the enforcement sentiment of agencies, using agency language—an organizational feature that is highly telling of agency values, preferences, and culture. In the subsequent chapter, I test that the anti-enforcement culture preserved by a combined agency design directly impacts the enforcement decisions made by combined environmental agencies. From the case studies and interviews I present here, I expect that the choice to place regulatory environmental programs within natural resource conservation or public health agencies will help maintain an anti-enforcement culture and that, that culture will be

reflected in agency choices about what constitutes a serious violation and how those violations should be penalized.

Chapter 3: The Combined Agency Design and Anti-Enforcement Culture Dominance

As mentioned in Chapter 2, one difficulty in establishing how agency design affects behavior lies primarily in connecting rather abstract concepts, such as culture, to decision-making. Scholars, such as Wilson (1989) and Schein (2010), have discussed these concepts in great depth, describing them as the “personality” of organizations; the “patterned and persistent way” of thinking about tasks (Wilson 1989, 91); and the language, physical and figurative boundaries, and workflow that combine to create the general ‘feel’ of organizations (Schein 2010). However, each scholar admits that these are difficult concepts to capture. For example, surveys may tell us how bureaucratic workers prioritize tasks, but they likely fail to tell us *why* bureaucrats think the way they do about their goals and tasks. Furthermore, surveys may tell us about individuals, but they are unable to fully capture the sentiment of the agency, as a whole.

In this chapter, I construct a measure of enforcement culture to assess whether or not the combined agency design helps to preserve the dominance of public health and natural resource conservation anti-enforcement cultures. In agencies where regulatory environmental programs have been nested within public health and natural resource conservation agencies, I expect for there to be a dominant anti-enforcement culture. In the theory of environmental agency design I present in Chapter 1, the dominance of the anti-enforcement culture is what directly affects the enforcement behavior of bureaucrats (what I test in the next chapter). Thus, before I can assess how agency design choices affect enforcement decisions, I, first, have to determine whether or not the combined agency design preserves an anti-enforcement culture.

The anecdotal evidence presented in Chapter 2 suggests that agency design plays a role in shaping how agencies feel about enforcement actions. The natural resource conservation approaches utilized by the MODNR and the public health approaches used by KDHE align well with the proposition that combination likely leads to the creation of some set of preferences in regards to using enforcement tools. However, to ascertain whether or not this is unique to KDHE and MODNR, we must compare across environmental agencies. That is the goal of the present chapter.

Measuring Agency Sentiment, using Agency Language

In order to fully understand the lens through which bureaucrats view their respective goals and tasks and, subsequently, how that perspective affects decision-making, we first have to develop a way to measure how an agency *feels* about enforcement actions—or their enforcement culture. This is not an easy task. As described in Chapters 2 and 3, culture is a jumbled collection of norms and preferences, mounting to a “feeling” or “personality” of the organization. Thus, the decision about how to capture such an abstract concept empirically is, admittedly, highly subjective. That being said, however, there is one commonality throughout many of the existing descriptions of organizational culture or sentiment; that commonality is organizational language.

The Linguistics Society of America (LSA)—a group of researchers that study language—states that “your culture—the traditions, lifestyle, habits, and so on that you pick up from the people you live and interact with—shapes the way you think, and *also shapes the way you talk* [emphasis added]” (Birner 2012). Although the LSA says that the direction of causality between language and culture is difficult to dissect, one thing is

for certain: language and culture are related. The LSA is primarily speaking about anthropological culture; however, the relationship surely holds within organizations as well. Take my interviews with combined agency workers. One of the comments made about the difficulty of being in a combined agency was specifically about “not speaking the same language.” Every organization has a unique language, and language is reflective of organizational culture (i.e., sentiment). Thus, one valid way to approximate and compare across the sentiment of environmental agencies, is to compare their language.

Existing Measures of Agency Values and Culture

The existing literature on agency culture or values has produced a number of compelling measures. Some scholars have calculated measures of agency culture or values using surveys that ask bureaucrats to rank their priorities and to discuss various agency protocols (see Gormley et al. 1983) or by accounting for the characteristics of bureaucratic workers (as in Meier and O’Toole 2006). In general, existing measures of agency values and culture are used to describe the attitudes and dispositions of bureaucratic employees, which are then considered together to explain something about the agency, as a whole. One issue with this approach is that the attitudes of bureaucratic workers, in particular, are not always predictive of agency outputs (Konisky 2008). Another issue is that characteristics of bureaucrats are generally linked to bureaucratic outputs that are likely to be affected by the dynamics of representative bureaucracy (e.g., demographic characteristics, specifically). For example, Chaney and Saltzstein (1998) find that female representation on police forces helped to curb the tendency of police departments in the 1990s to ignore mandatory arrest laws for domestic violence. In that

situation, specifically, gender was likely to make a difference; however, for policy decisions such as regulation, characteristics of bureaucrats, beyond ideology, are not likely to impact how environmental agency workers feel about regulation. Furthermore, because attitudes are not always adequate predictors of bureaucratic decision making, it is difficult to use the template for existing measures to address differences in environmental agency decision making. Thus, I propose the comparison of language as an alternative to existing measures of bureaucratic value and culture.

Press Releases: A Source of Agency Language

One difficulty in using language as a measure of agency culture or sentiment is determining what accounts as official ‘agency language.’ There are a number of options. Rules, for example, could provide a thorough look into the kind of activities the agency performs. That being said, a rule may exist, but that does not necessarily mean that it will be enforced. How agencies prioritize among existing rules is more difficult to determine just by looking at the rules, themselves. So, then, what might we use to evaluate the sentiment, or the lens through which bureaucrats view and prioritize their tasks? I posit that agency communications with the public, or press releases, will provide an adequate sample of agency language that encapsulates how agencies view programs and policies.

Although press releases have not routinely been used to measure the values or preferences of bureaucrats, agency communications to the public help agencies to develop a public persona—the way they want to be perceived by the public. Because of this, press releases provide valuable information about agency prioritization. Studies have found that the tone and kind of language used in press releases helps organizations

communicate their expectations and opinions about programs/policies or potential policy outcomes and that press releases help agencies to inform outside interests that certain policy goals are being pursued (Davis et al. 2012; Lemov 1968).¹ Thus, press releases are valuable because they can tell us what the agency has done, what the agency plans to accomplish, and what the most important priorities of the agency are—those activities and programs that they would want the public to know about. Furthermore, press releases are public proclamations about agency activity, and because of their publicness, execution within the programs and policies mentioned is even more likely, as the public is able to hold the bureaucracy accountable when they are provided with information. If an agency does not intend on executing a mandate, then, it is unlikely they would bring the public's attention to that program.

From a methodological standpoint, press releases are an advantageous data source, as well. Almost all agencies, at the state level and the federal level, release some kind of notices to the press about agency activities, programs, and successes. Since the massive growth of government services that followed the Great Depression, government has had to inform the public of their goals and how existing programs were meant to achieve those goals (Saunders 1937). Thus, it is easy to compare across many different types of agencies, using widely available press releases.

¹ Davis et al. (2012) find that corporations, in particular, use press releases to help stockholders make trading choices. By informing stockholders about the direction of the company and future, expected outputs, stockholders can make better decisions about whether or not to increase or lower investments. For public bureaucracies, investment can be translated to political support.

In sum, in order to assess the effect of combined environmental agency structures on the preservation of an anti-enforcement culture, we need a way to approximate the abstract concept of enforcement culture. One concrete way to do this is to look at language, which is often a reflection of the cultures and values of an organization. The kind of language we need to act as a proxy for culture is language that tells us what is important to an organization and the positivity or negativity surrounding certain programs and tasks. Press releases are an adequate source for that kind of language.

Constructing a Measure of Sentiment

Although in-depth qualitative analyses of language through interviews and summations of archived documents are useful ways to point to general themes in language, there are a number of benefits to using a more quantitative approach to analyzing language. To begin, quantitative analysis of language is “a non-obtrusive, non-reactive measurement technique. The messages are separate and apart from communicators and receivers” (Riffe et al. 2005, 38). More simply, there is less room for error in interpretation of messages. Additionally, bureaucratic agencies may be “unwilling or unable to be examined directly,” and language analysis of agency documents is not dependent upon the participation of the agency staff (38). Analyzing language quantitatively is, thus, a way to approximate culture, while lowering the risk of misinterpretation and increasing our access to data that would be far more difficult to obtain through surveys and interviews. Admittedly, there are weaknesses to the quantitative analysis of text, including the issues of comparing language across time—words change in meaning—and an inability to pick up on deeply latent messages that are

conveyed by tone and body language. However, for the purposes of this analysis—to establish an agency-wide culture, a quantitative analysis of text over the same period of time for each agency is a valid methodological approach.

Wordscores Method

To compare dominant enforcement cultures across environmental agencies, I generate a score that allows us to compare the enforcement cultures of agencies to one another. To do this, I employ Laver et al.'s (2003) Wordscores method for extracting policy positions from political texts. Before I describe in detail how I use the Wordscores method to calculate my own measure, I will first describe briefly the logic behind the Wordscores content analysis procedure. Although the Wordscores method was created in order to determine the political positions of political parties, the same concept can easily be applied to placing many kinds of organizations on a variety of dimensions, since it is simply a way of using word frequencies to determine how closely documents mirror reference texts that have been placed *a priori* on a dimension. More simply, if we can establish a dimension and have confidence in the position of a certain number of texts on that dimension, we can also determine the position of other texts. Specifically, the Wordscores method uses the “relative frequencies” that are observed for each of the “different words” in reference texts—those texts that we already have determined a policy position for—to calculate “the probability that we are reading a particular word” (Laver et al. 2003, 313).

For example, in a simple liberal to conservative dimension that ranges from -1.0 to 1.0, the text of a knowingly conservative political party may be a 0.90. Given the

policy dimension placement that we have given *a priori* to that reference text, we can “generate a numerical score for each word” that appears in the document (313). The score reflects the expected policy position of the text, “given only that we are reading the single word in question” (313). These wordscores are then applied to the words in “virgin texts”—those texts that we have no *a priori* policy knowledge about—and can be used to estimate the positions of virgin texts on the policy dimension that we are interested in. “Each word scored in a virgin text gives us a small amount of information about which of the reference texts the virgin text most closely resembles,” each scored word adding more information about the virgin text and making us more confident in the final score of the text, as a whole (313). In conclusion, we should be able to calculate a score for each text that tells us how closely the language of the virgin text resembles that of the reference texts and how much error is associated with our calculations. In the following, I describe how I employ the Wordscores technique to compare the enforcement cultures of environmental agencies.

Constructing the Dimension of Enforcement Culture

To employ the Wordscores method to compare the enforcement cultures of environmental agencies, we, first, must place reference texts on a dimension. As I mentioned in Chapter 1, there are a variety of opinions surrounding the use of enforcement mechanisms on industry, such as fines and other methods of penalization, as a means to protect the environment. From a natural resource conservation perspective, the purpose of protecting the environment is to preserve economically important natural resources and lands. Thus, the penalization of industry works against the very purpose of

environmental protection. From a public health perspective, the purpose of protecting the environment is to strictly protect human health. Hence, the regulation of industry is only necessary in situations where a risk to human health has been clearly established. It is more reactive than preventative and is not used as a blanket approach to protecting the environment. From a pollution control perspective, such as that employed by the EPA, the purpose of protecting the environment goes beyond protecting human health, to include the preservation of eco-systems and endangered species, whose preservation may not be directly connected to human health. Therefore, efforts to control pollution may be used, even when the level of risk to humans is uncertain. The approach is much more preventative. Controlling industry, from the pollution control perspective, is the most viable way to protect the environment, and as a result, enforcement is used with more prevalence.

Given these competing perspectives on the use of enforcement within environmental protection, we can establish a dimension that ranges from a more dominant anti-enforcement culture to a more dominant pro-enforcement culture. More specifically, a -10 on this dimension would indicate that an agency has a more dominant anti-enforcement culture and is cooperative and flexible with industry and hesitant to use fines or other means of penalization to encourage compliance. A +10.0 on this dimension would indicate that an agency has a more dominant pro-enforcement culture and is much more willing to use fines or other means of penalization as a primary means to encourage compliance. To provide comparison points for state-level enforcement cultures, I have collected reference texts from three federal agencies that capture a variety of enforcement

cultures: press releases from the Department of Interior, the Department of Health and Human Services, and the EPA.

As mentioned in Chapter 1, the DOI has traditionally employed methods of protecting valuable lands and resources that involve incentivizing industry and stakeholder cooperation, rather than more coercive approaches. Additionally, the proclaimed goals of many DOI preservation programs are the continuation of human use and enjoyment (DOI 2016, “Our Priorities”). Thus, I have placed DOI texts at -10 on the enforcement culture dimension. The EPA, conversely, relies heavily on the command and control approach to regulation, in order to protect the environment. Therefore, I place EPA texts at +10.0 on the enforcement culture dimension. And, finally, HHS deals indirectly with environmental health initiatives, collecting large-scale data to determine where environmental risks merit action. When action is merited, the agency generally works alongside the Center for Disease Control and the EPA to encourage cooperation. Like many public health agencies at the state-level, the primary role of HHS is to educate the public on health risks, manage disease, and regulate the health industry (HHS 2016, “Programs and Services”). Environmental health is tangential to these programs but not necessarily fundamental. Thus, I place HHS texts between the EPA (+10.0) and DOI (-10.0) texts at 0.

Expectations and the Development of Enforcement Culture Scores

As mentioned in the introduction to this chapter, the purpose of the following analysis is to determine how the design of environmental agencies affects the preservation of a dominant anti-enforcement culture. As illustrated by the case studies and anecdotes in Chapter 2, the combination of environmental regulation with public

health and natural resource conservation motivates a unique approach to environmental protection, particularly in terms of enforcement. Also as outlined in Chapter 1 and as supported in Chapter 2, the natural resource combination likely helps to protect an anti-enforcement culture, in which agencies are disposed to cooperate with industry, impose regulations with flexibility, and use penalizations, such as monetary fines, only as a last resort. This is a sentiment that has historically and traditionally been captured by the DOI. Thus, I expect agencies with the natural resource combination to score closer to -10.0 (the reference text score assigned to the DOI texts) than states that have chosen the public health combination design or the mini-EPA design.

Conversely, those agencies that have chosen the public health combination design should score more closely to zero (the reference text score assigned to HHS) than those states that have chosen the natural resource conservation combination or mini-EPA design. As described in Chapters 1 and 2, the public health approach to environmental protection relies heavily on human health risk assessments of pollution threats and emphasizes treatment over prevention. Thus, the more preventative enforcement actions employed by the EPA—enforcement actions that do not necessitate a standard level of risk—are less prevalent within the public health approach to environmental protection. Thus, my expectation is that the enforcement culture of combined public health and environmental regulation agencies will mirror that of HHS more closely than the enforcement cultures of the DOI or the EPA. And, finally, I expect those agencies that are designed like the EPA will share the enforcement culture of the EPA, scoring more closely to the EPA (with a reference text score of 10.0) than HHS or the DOI. In sum, I

expect that combined agency design states will mirror, through the preferences portrayed by their language in communications with the public, agencies other than the EPA.

Data Collection

To collect the texts necessary for the analysis, I obtained 2011-2012 press releases from the websites of the DOI, HHS, EPA, and 15 state-level environmental agencies (see Table 3.1 for a list of the states' press releases used in the analysis). The 15 states include five combined public health agencies, five combined natural resource conservation agencies, and five mini-EPA agencies.² Once collected, the press releases were combined together into a single document. On average, each state's combined text was approximately 212 pages. These plain text documents do not include any photos or special characters that were included in the original press releases. Additionally, stop words (i.e., words like "and," "to," "or," etc.) were removed from the documents to make the analysis more precise.

Calculation of Enforcement Culture Scores

Once the data was collected and consolidated into single text documents, I was able to calculate relative word frequencies, using Laver et al.'s Stata Wordscores program. The program simply calculates how often a unique word appears in each text. After the calculation of relative word frequencies, I specified my reference texts, scoring

² Although eventually I plan to use press releases from each state, because of the time-consuming nature of the data collection—not all websites were easily scrapable—and the limited press releases available for some states, I am currently using fifteen states to perform the analysis.

the document of DOI press releases as -10.0, the HHS document as 0, and the EPA document as 10.0. Using these scored reference texts, I calculated ‘wordscores’ using Laver et al.’s program.

Table 3.1. State Agencies' (2011-2012) Press Releases Used in the Analysis, by Design Type

<i>Mini-EPA</i>	<i>Natural Resource Combination</i>	<i>Public Health Combination</i>
Arizona Department of Environmental Quality	Delaware Department of Natural Resources and Environmental Control	Hawaii State Department of Health*
Idaho Department of Environmental Quality	Florida Department of Environmental Protection	Kansas Department of Health and Environment
New Mexico Environment Department	New Jersey Department of Environmental Protection	North Dakota Department of Health
Oregon Department of Environmental Quality**	Vermont Department of Environmental Conservation	South Carolina Department of Health and Environment*
Utah Department of Environmental Quality	Rhode Island Department of Environmental Management	
Maryland Department of the Environment		

* 2011, only

** 2012, only

Based on the wordscores, text scores for the each of the virgin texts were calculated, providing raw scores, transformed scores, and confidence intervals.

When referencing the enforcement culture scores, I will focus on the transformed scores (as shown in Table 3.2), as opposed to the raw scores, because the transformed scores are easier to interpret. The virgin text scores are on a different scale than the reference text scores—a scale that is much smaller in comparison. The transformed scores place the virgin texts on the same dispersion metric as the reference texts, making them much

easier to interpret. Specifically, transforming the scores “preserves the mean and relative positions of the virgin scores but sets their variance equal to that of the reference texts,” (316) simply making the scores easier to interpret and compare to one another.

Results of Enforcement Culture Score Construction

The states’ virgin text scores, or the scores of enforcement sentiment, are presented in Table 3.2. The states have been organized by their agency design type to make interpretation of the results clearer. Summarily, the results of the analysis support my expectation that states should be clustered by their agency design type, in terms of the dominant enforcement culture (from a dominant anti-enforcement culture within natural resource conservation to a dominant pro-enforcement culture within environmental protection). States that have chosen to combine natural resource conservation with environmental regulation (Florida, Delaware, New Jersey, Vermont, and Rhode Island) are clustered around the DOI’s score for reference of -10.0. Additionally, the state that has chosen a natural resource combination that looks least like the DOI, Rhode Island, significantly differs in a negative direction from the closest public health combination state, North Dakota. In general, it also appears that the more liberal natural resource combination states that rely comparatively less on manufacturing (e.g., Vermont and Rhode Island) fall higher (more like HHS and the EPA) on the scale than states with more conservative political atmospheres or industry-based economies (e.g., Florida and New Jersey). This is not unexpected given the existing empirical evidence that a state’s dependence on industry/natural resources and political atmosphere likely affect the way they view or impose regulatory actions.

Table 3.2. Enforcement Sentiment Scores of Environmental Agencies, using the Wordscores Method

Agency Design Type	State Text	Number of Unique Words Scored	Transformed Score	Transformed Standard Error	95% Confidence Interval		Percentage of Text Scored
Natural Resource Combination (DOI=-10.0)	Florida	6,579	-14.84	0.25	-15.33	-14.34	93.3%
	Delaware	8,436	-10.55	0.17	-10.89	-10.20	92.0%
	New Jersey	8,709	-8.12	0.18	-8.47	-7.77	94.8%
	Vermont	3,954	-6.09	0.37	-6.82	-5.35	93.9%
	Rhode Island	6,493	-5.57	0.19	-5.94	-5.19	92.8%
Public Health Combination (HHS=0.0)	North Dakota	4,583	-2.21	0.24	-2.69	-1.74	93.1%
	South Carolina	3,228	-1.12	0.38	-1.88	-0.35	91.3%
	Kansas	6,636	1.43	0.18	1.07	1.79	93.4%
	Hawaii	3,343	3.30	0.41	2.48	4.13	93.3%
Mini-EPA (EPA=10.0)	Utah	4,049	-5.95	0.40	-6.75	-5.14	94.1%
	New Mexico	4,623	2.67	0.30	2.06	3.27	93.0%
	Arizona	4,024	10.57	0.31	9.94	11.19	93.2%
	Maryland	4,163	13.31	0.36	12.59	14.03	95%
	Idaho	3,628	14.04	0.29	13.46	14.62	96.1%
	Oregon	4,621	19.87	0.27	19.32	20.42	92.2%

There is one obvious outlier, though, which is Delaware, a state whose enforcement score is about -10.55. Delaware is a liberal state, with unified Democratic government that spans the time of this analysis. Additionally, Delaware's dependence on natural resources is relatively low. That being said, Delaware's Department of Natural Resources and Environmental Control (DNREC) has a rich history in valuing the opinions of industry, farm organizations, conservation groups, and geologists. The creation of both the Delaware Water Resources Study Committee and the New Castle County Water Resources Committee in the early 1950s, predecessors to DNREC, involved the inclusion of all of those stakeholders. Additionally, as the Delaware

Geological Survey states, the continued role that the State Geologist played in providing advice to WARC, “created the potential for blurring the distinct separation of research activities by the Survey and regulatory activities of WARC” (DGS 2016, “Creation of the Delaware WARC”). This finding suggests that the design of the agency can be a powerful force, even in the face of opposing political or economic circumstances. This is a finding I analyze in more depth in Chapter 5.

The public health combination states also appear to cluster around the HHS, which was given a reference score of zero. However, while the difference between the public health combination agency closest to the DOI (North Dakota) and the natural resource combination agency closest to HHS and the EPA (Rhode Island) is significant, I have less confidence in the difference between public health combination agencies and mini-EPA agencies. For example, Hawaii, with an enforcement score of about 3.30 is actually closer to the EPA than mini-EPA agencies, such as Utah and New Mexico. These outliers hover between the EPA and HHS—Utah, with a score of -5.95 and New Mexico, with a score of 2.67. These scores are both significantly lower and closer to DOI and HHS than Hawaii—the public health combination state with the highest score. Additionally, the relatively high score of Idaho, at 14.04, seems counterintuitive, as well.

All of that being said, there are other factors that are likely at play here. While agency design is, in the majority of cases, producing the effects on enforcement sentiment that I expect, for the outliers, there are a few things to note that might be intervening. First, Utah and New Mexico are both states that enacted laws that limited environmental agencies from adopting environmental regulations that are stricter than the federal law mandates. This could be limiting both agency’s ability to use the kind of

enforcement mechanisms that a state like Oregon might. The agency design in place prevents the states from dropping too low (especially in the case of New Mexico); however, the constraints on the agencies' ability to implement certain kinds of policies may lead to at least perception of a more anti-enforcement sentiment. Unfortunately, Idaho is also another state that has passed laws limiting the authority of state agencies, which once again brings into question its high score on the enforcement dimension. There is something extremely important about Idaho's environmental protection programs, though, and that is that as of 2012, Idaho "still had not assumed authority to implement the base permit program under the Clean Water Act" (Konisky and Woods 2013, 478). More simply, the EPA has primacy over part of Idaho's environmental protection programs. Thus, when this is considered alongside Idaho's agency design, it is not all that surprising that Idaho looks much more like the EPA than we might expect. The EPA is running part of Idaho's agency.

A Relationship between Agency Design and Enforcement Culture Dominance?

Given the scores constructed to approximate enforcement culture, one question clearly remains: does agency design lead to the differences in enforcement culture dominance? The results in Table 3.2 certainly appear to support this proposition; however, the clustering of enforcement culture scores is simply a crude measure of correlation. More simply, it is clear from outliers and unclear distinctions that there are other variables that must be considered. Thus, below I will test the following hypotheses, using multivariate OLS regression:

H1: The natural resource combination will result in a more dominant anti-enforcement culture (a decrease in the enforcement culture score)

H2: The public health combination will result in a more dominant anti-enforcement culture (a decrease in the enforcement culture score).

To measure agency design, I use a dummy variable for each agency type, except for the mini-EPA type, which is the base category.

Based on the insignificant difference between some public health combination agencies and mini-EPAs that I note above, I expect the relationship between the public health combination design and enforcement culture to be weaker than the relationship between the natural resource combination design and enforcement culture. However, in order to test these hypotheses without the biases implicit in comparing the scores in Table 3.2, I also include a number of control variables that account for other factors that likely shape how dominant an anti-enforcement culture may be: a measure of environmental quality (the number of clean air days per year), the number of polluting facilities, the population and square area of a state, the political atmosphere of the state (measured by a unified Republican control dummy variable and environmental spending), bureaucratic autonomy (as measured by management grades), the change in state GDP, and the presence of laws that limit state environmental agency authority. All of the measures used, here, are traditionally included in models of state-level environmental regulation (see Atlas 2007, for example), as they typically encapsulate the politics of a state, the need for environmental regulation, and the capacity of the bureaucracy to act.

Given the possibility that the politics of a state or the existence of laws limiting agency authority have shaped the enforcement sentiment of states, such as New Mexico, Utah, and Idaho, I will test another set of hypotheses that test the impact of these

potentially important control variables. As I described above, political atmosphere—specifically the control of a more conservative party—has been shown to lower regulatory stringency (e.g., Atlas 2007; Hedge and Johnson 2002). Additionally, Konisky and Woods (2012) argue that state environmental spending is another powerful indicator of a state’s dedication to environmental protection. In my own scores, I pointed to the order of the scores. Liberal states appeared to have higher scores than conservative states, within the agency design categories. Thus, I expect that those states with unified Republican control will score lower on the enforcement dimension, while those states spending more on environmental protection programs will score higher.

H3: Unified Republican control will result in a decrease in a more dominant anti-enforcement culture (a decrease in the enforcement culture score).

H4: Higher spending levels will result in a more dominant pro-enforcement culture (an increase in the enforcement culture score).

Additionally, I suggested that the implementation of laws that limit state environmental agency authority may hinder agencies’ ability to execute strict enforcement, and that the EPA’s authority over the implementation of major environmental laws in some states may strengthen enforcement. These arguments are reflected in my final two hypotheses:

H5: Laws limiting agency authority will result in a more dominant anti-enforcement culture (a decrease in the enforcement culture score).

H6: Federal control over at least one major environmental law in the state will result in a more dominant pro-enforcement culture (an increase in the enforcement culture score).

Results

The results from the OLS analysis of agency design's effect on the dominance of an anti-enforcement culture are portrayed in Table 3.3.

Table 3.3: OLS Analysis of Agency Design Effect on the Development of Enforcement Sentiment (2010-2014)

Natural Resource Combination	-8.28** (2.31)
Public Health Combination	-2.21 (2.98)
Unified Republican Control	1.30 (2.45)
Environmental Spending	0.01 (0.01)
Laws Limiting Agency Authority	-9.95** (2.35)
Lack of Regulatory Primacy	8.87** (2.74)
Number of Polluting Facilities	-0.01** (0.01)
State Population	0.01 (0.01)
State Square Area	0.01** (0.01)
Air Quality	-19.71* (9.14)
Bureaucratic Autonomy	-2.69** (0.52)
Change in State GDP	0.17 (0.28)

n= 75
R²= 0.73

Given the controls, the analysis suggests that the natural resource combination has a strong and negative effect on enforcement culture. The combination leads to a more dominant anti-enforcement culture, as I posit in H1. More specifically, this means that the enforcement culture within an agency with the natural resource combination should, given all other factors, align much more closely with the enforcement culture of the DOI—an agency that prefers cooperation and flexibility with industry over penalization. Conversely, given the data, we cannot be confident about the public health combination's effect on the dominance of an anti-enforcement culture. The data does not support H2. This is not all that surprising, given the apparent lack of distinction between the public health combination culture and mini-EPA culture illustrated in Table 3.2. This finding is also supported by the theory laid out in Chapter 2, in which I establish that public health programs are likely more closely aligned to environmental regulation programs than natural resource conservation programs.

A more surprising result is the lack of a political effect on enforcement culture. Given the existing conventional wisdom that regulatory actions are shaped by political preferences, this lack of effect is noteworthy. One possibility is that Republican control and environmental spending are highly correlated with the choice to combine natural resource conservation with environmental regulation. However, as mentioned in Chapter 2, the states that have chosen the combined natural resource conservation design vary greatly in their location, environmental situation, and, most importantly, politics and

ideology. Table 3.4 shows the simple correlation measure between the natural resource conservation measure and unified Republican control.³

Table 3.4. Correlation Matrix for Natural Resource Combination and Unified Republican Control

	Natural Resource Combination	Unified Republican Control
Natural Resource Combination	1.00	0.007
Unified Republican Control	0.007	1.00

*Bolded text indicates the correlation statistic
Correlation is not significant at $p < .10$

The two variables are not highly correlated (a Pearson's R of 0.007). Thus, while Republican control and lower levels of environmental spending may motivate the maintenance of a dominant anti-enforcement culture, when all factors are considered, I am more confident that agency design maintains the dominance of the anti-enforcement culture. The data do not provide strong support for H3 and H4.

In regards to H5 and H6, the laws that some states have implemented, limiting the authority of environmental agencies, have a strong, negative effect on enforcement sentiment. Thus, my data support H5, as I posited in H5 that these laws should increase the dominance of an anti-enforcement culture.

³ As I elaborate on more extensively in Chapter 4, I use unified Republican control, as opposed to other measures of political control for two reasons: (1) this measure produced a more substantive and statistically significant effect than other measures (percentage of Democrats/Republicans in the state legislature, party of the Governor, etc.), and (2) the measure has been used in previous studies, such as Hedge and Johnson (2002), as a valid measure of political control.

In fact, it appears as if, given a number of other variables, laws limiting agency authority have one of the strongest effects on enforcement culture—even more so than agency design. That being said unified Republican control and the passage of agency limitation laws are fairly correlated (0.27, p-value <0.01); thus, the missing political effects in the model may be captured by this variable that accounts for a blatant action taken by some state legislatures to limit environmental agency discretion.

Finally, when the federal government controls at least one of the major environmental protection policies in a state, this primacy affects enforcement culture. As posited in H6, when state's give up control over at least one major environmental policy, this greatly increases the dominance of a pro-enforcement culture. On its face, this is a puzzling result. We might assume that the EPA takes control over a state's environmental programs because the state is incompetent or unwilling to meet EPA's standards. However, that logic does not hold for two reasons. First, the EPA has actually never taken away a state's ability to implement environmental programs. The states that have forfeited control over some environmental programs have voluntarily forfeited control to the EPA. Second, as I described previously, if the EPA is placed in charge of environmental programs, it is likely that those programs will be shaped by the EPA's dominant pro-enforcement culture. Thus, we should really expect the enforcement cultures of states that lack control over certain environmental programs to mirror the enforcement culture of the EPA.

In addition to these findings of primary interest, there are some surprising results in regards to other control variables, as well. For instance, the data suggest that better air quality results in a large decrease in the enforcement score, meaning there should be a

more dominant anti-enforcement culture. This is likely the result of need, in that states who have little air pollution trouble likely require less enforcement. It is not of preference to the agency because it is not necessarily a problem. The fact that the agency design variable holds strong, even considering the need for enforcement, suggests that the natural resource combination, in particular has a strong impact on the dominance of an anti-enforcement culture.

Finally, bureaucratic autonomy, a measure I proxy by using state-level management capacity scores,⁴ appears to decrease the enforcement culture score slightly. As I mention in Chapter 1, environmental bureaucrats, regardless of agency design, are incentivized by their close proximity to the industries they regulate to choose more lenient approaches to regulation. Therefore, it is not too surprising that, given all else, when agencies have a greater amount of control over their decision-making, bureaucrats will favor more leniency, regardless of agency design.

Discussion and Concluding Thoughts

Although abstract concepts, such as agency culture and values are difficult to measure, their importance in shaping bureaucratic outputs should not be understated. These internal bureaucratic characteristics play a fundamental role in how bureaucrats perceive their goals, tasks, and approaches to policy problems. In the theory of environmental agency design, understanding how design affects the development and

⁴ The state-level management scores I use in the model have previously been used by Nicholson-Crotty and Miller (2012) to proxy bureaucratic autonomy. I elaborate on this measure in more depth in Chapter 4.

preservation of an agency enforcement culture is a fundamental piece of the puzzle in determining how differences in design lead to differences in enforcement actions.

While the anecdotes and case studies of Chapter 2 suggested that combined environmental agency designs would help to reinforce the dominance of an anti-enforcement culture, I was unable to compare across environmental agencies. In this chapter, I have accomplished two main things: the construction of an enforcement culture score and an analysis of the relationship between agency design and the dominance of enforcement cultures. First, I developed a more concrete way to measure enforcement culture—a concept that individual indicators can rarely capture. To do this, I used the language of environmental agencies. Language is highly reflective of culture and sentiment and, with quantitative content analysis, can help to capture a number of different variables into an interpretable measure. Using the Wordscores method created by Laver et al., I compared the language of environmental agencies to federal agencies that have clearly established perspectives on the purpose of and approaches to enforcement. With these scores, I was able to establish that combined natural resource agencies speak about their environmental programs in a way that mirrors the DOI. These agencies significantly differ in their language from combined public health agencies and mini-EPAs. Conversely, it was much more difficult to establish clear lines between the combined public health agencies and mini-EPAs.

Second, upon further dissection of these preliminary findings, I formulated a number of hypotheses about additional variables that might be shaping enforcement culture, such as political forces, laws that limit bureaucratic discretion, and primacy. Including these variables alongside agency design in a multivariate analysis, I was able to

test my expectation that agency design should affect the dominance of either anti- or pro-enforcement cultures. Indeed, the findings support that the natural resource combination design significantly decreases the enforcement culture score, suggesting that the design helps preserve a dominant anti-enforcement culture. The public health combination produced less convincing effects. Most importantly, I was able to maintain confidence in the effect of the natural resource conservation combination, even with political actions and EPA control over state programs exerting their own statistically significant effects. Thus, in sum, agency design—particularly the natural resource combination—has an effect on enforcement culture. It appears to lead to a dominant anti-enforcement culture, similar to the culture inherent in the DOI.

The measure I constructed, here, is, admittedly, not perfect. With abstract concepts, such as culture, it is difficult to establish a measure that perfectly approximates the concept. However, the enforcement culture measure is generally affected by each variable in the model the way we would expect. This consistency suggests that the measure likely captures something about culture and is a potentially valid indicator. It is my opinion that with some refinement, measures, such as the one constructed here, can greatly aid in our ability to understand complex institutions, such as bureaucratic agencies. Text is an inarguable underutilized data source within bureaucratic studies and other areas of political science.

To conclude, this chapter helps to address one part of the theory of environmental agency design—that the combined agency design protects the dominance of an anti-enforcement culture. The chapter does not, however, establish that agency design directly affects enforcement *actions*. As I mentioned early in the chapter, the measure constructed

here is a measure of the feelings, beliefs, and perspectives that likely spur actions—not a measure of actions, themselves. Thus, another part of the theory—how design affects enforcement actions—has yet to be tested. In the next chapter, I dissect this part of the theory further, analyzing the effect of agency design on the enforcement actions taken by environmental agencies.

Chapter 4: Analyzing the Effect of the Combined Environmental Agency Design on the use of Enforcement Tools

In Chapter 3, I addressed the one part of the theory of environmental agency design, showing that the combined natural resource conservation agency design helps to protect the dominance of an anti-enforcement culture within combined agencies. While there was little evidence to suggest that the public health combination protects a dominant anti-enforcement culture, combined natural resource agencies' language mirrors the DOI, much more closely than the EPA. The DOI has historically embraced a more flexible and cooperative relationship with industry, a sentiment that appears to be shared by combined natural resource conservation agencies. The relationship between agency design and a dominant anti-enforcement culture held, even when the current political context of a state, the scope of industry, primacy over regulatory environmental programs, and restrictions on environmental agency discretion were considered. In the present chapter, I address another part of the theory of environmental agency design—that the design's protection of a dominant anti-enforcement culture affects the day-to-day enforcement decisions combined agency workers make.

To reiterate, the theory I laid out in Chapter 1 describes the following: the choice to nest regulatory environmental programs within existing natural resource conservation and public health frameworks serves to protect the anti-enforcement culture inherent to natural resource conservation and public health agencies. This anti-enforcement culture shapes enforcement actions. The dominance of the anti-enforcement culture is reinforced in two ways: (1) the path dependent nature of bureaucratic agencies and the difficulty involved in bureaucratic reorganizations helps insulate the agency from outside pressures,

such as political control, and (2) state-level bureaucrats experience unique pressures, as we expect them to regulate the industries that support the local economy. All state-level workers, regardless of agency or political surroundings, feel their regulatory decisions can have an economic effect (as shown by Konisky 2008). Thus, these localized economic concerns help reinforce the anti-enforcement culture inherent within combined agencies.

Thus far, I have established a few sources of support for my theory of environmental agency design. In case studies of the MODNR and KDHE, in Chapter 2, I found support for the proposition that the choice to nest environmental regulatory programs within long-standing natural resource conservation (as with MODNR) or public health (as with KDHE) agencies can affect an agency's enforcement culture over time. With the maintenance of a dominant anti-enforcement culture and partnerships with local industry, have come allegations about leniency with polluting facilities for both MODNR and KDHE. Additionally, the examples from interviews that I shared in Chapter 2 help support the notion that combined agencies' anti-enforcement culture shapes environmental bureaucrats' enforcement preferences, along with their ability and willingness to penalize industry the way the EPA suggests is appropriate or necessary. In sum, Chapter 2 provided anecdotal evidence for the theory of environmental agency design presented in Chapter 1.

In Chapter 3, I began the process of directly testing both parts of the theory of environmental agency design, illustrating through the construction of a measure of agency enforcement culture that agency design significantly impacts the way public persona agencies take on, in terms of enforcement. As I mentioned in introduction to this

chapter, I found support for my hypotheses that the combined natural resource agency design results in a more dominant anti-enforcement culture, similar to that expressed by the DOI.

In this chapter, I round out the theory of environmental agency design by looking to the effect that the natural resource conservation combination and public health combination have on the way environmental agencies use enforcement tools. Specifically, I look to the assignment of violations and the assessment of penalties to determine whether or not the anti-enforcement sentiment protected by a combined agency design translates into significant differences in the use of traditional enforcement tools. The subsequent discussion proceeds in the following way: first, I will describe the role that enforcement tools play in the command and control regulatory style championed by the EPA. Second, I will briefly describe how the anti-enforcement culture I described in previous chapters will affect enforcement decisions, even given other outside pressures. It is in the second section that I present the hypotheses for my analyses. Following the presentation of my hypotheses, I describe my data, methodology, and variables. I, then, discuss my findings and conclusions.

Enforcement Tools in Command and Control Regulation

In Chapter 2, I described a number of allegations made against the MODNR and KDHE, in regards to their leniency with local, polluting industries. In particular, many of these allegations dealt with accommodations made to regulated entities. Industries were allegedly not held accountable for violations and were under-penalized when they were held accountable. Although MODNR and KDHE both publicly embrace innovative

approaches to helping industry to cooperate with environmental standards, they have both been criticized for cutting corners in terms of enforcement. More simply, although both agencies have argued that enforcement is not always necessary to ensuring compliance, their agency performance is still being assessed, using enforcement actions as an indicator of dedication to environmental protection efforts.

Agencies are judged by their enforcement actions because enforcement actions have played a significant role in environmental protection efforts, since the focus of those efforts became centered on regulating industry in the 1970s. The command and control approach, advocated by the EPA, is a regulatory approach in which regulatory standards are set, in accordance with national law, and the EPA enforces those standards through regular monitoring and penalization for the violation of standards. An important foundation of the command and control approach is that while environmental standards could be “established with reference to incremental control costs,” “environmental laws rarely give EPA this discretion (EPA “3.2 Command and Control”). More generally, this means that the cost of regulations posed to industry is not to be considered during the rule-making process; only the effects on human health should be considered. This is in direct contradiction to many of the regulatory philosophies adopted by combined state agencies, in which “feasibility” is regularly assessed. This distinction is important to note because it extends far beyond the rulemaking process.

A pivotal part of the command and control approach is the set of enforcement actions used by regulators to address industries that violate regulatory standards.

Table 4.1. List of Possible Enforcement Actions and Results

<i>Types of Enforcement Actions:</i>	<i>Types of Enforcement Results:</i>	
<p>Civil Administrative Actions</p> <ul style="list-style-type: none"> • Notice of violation or a Superfund notice letter • An order (with or without penalties) directing an individual, a business, or other entity to take action to come into compliance, or to clean up a site 	<p>Civil Enforcement</p>	<p>Settlements:</p> <ul style="list-style-type: none"> • Agreed-upon resolutions to an enforcement case, often in the form of consent agreements/final orders or administrative orders on consent. <p>OR</p> <ul style="list-style-type: none"> • Settlements in judicial actions are in the form of consent decrees signed by all parties to the action
<p>Civil Judicial Actions</p> <ul style="list-style-type: none"> • Formal lawsuit against persons or entities that have failed to comply with regulatory requirements or an administrative order or have failed to pay EPA cleanup costs 		<p>Civil Penalties:</p> <ul style="list-style-type: none"> • Monetary assessments paid by a person or regulated entity—meant to recover the economic benefit of noncompliance
<p>Criminal Actions</p> <ul style="list-style-type: none"> • Court conviction, resulting in fines or imprisonment 		<p>Injunctive Relief:</p> <ul style="list-style-type: none"> • Requires regulated entity to perform, or refrain from performing, some designated action
<p>Criminal Actions</p> <ul style="list-style-type: none"> • Court conviction, resulting in fines or imprisonment 	<p>Criminal Enforcement</p>	<p>Supplemental Environmental Projects:</p> <ul style="list-style-type: none"> • Can be part of enforcement settlement—projects that a violator voluntarily agrees to perform, in addition to any other actions required to correct violations
		<p>Criminal Penalties:</p> <ul style="list-style-type: none"> • Fines imposed by a judge at sentencing. Defendant may be ordered to pay restitution to those affected by the violation <p>Incarceration:</p> <ul style="list-style-type: none"> • Prison time for an individual defendant

The EPA labels the enforcement of environmental laws as a “central part of EPA’s Strategic Plan to protect human health and the environment” (EPA 2016 “Enforcement Basic Information”). Table 4.1 shows a list of possible enforcement

actions and results. Enforcement actions are assessed by the EPA and/or state environmental agencies, upon the assessment of a violation(s) of environmental regulations. For the EPA ‘cost to industry’ is not an important component of rulemaking, and it is also not an important component of enforcement. The EPA calls for “tough civil and criminal enforcement for violations that threaten communities and the environment” (EPA 2016, “Enforcement Goals). Cooperation, flexibility, or partnership with industry is not listed among the EPA’s (2016) “Enforcement Goals.” The EPA does mention using “innovative enforcement strategies to improve compliance;” however, placing emphasis on keeping industry costs low is in direct opposition to the regulatory philosophy put forth by the EPA.

In sum, there are two important components of the EPA’s perspective on regulation that likely influence their use of enforcement actions: (1) enforcement actions are an important part of the regulatory process championed by the EPA—command and control—and (2) the EPA’s regulatory process does not take the ‘cost to industry’ under consideration. However, because the EPA and state environmental agencies assess violations and implement enforcement actions separately, enforcement actions are one of the areas in environmental policy where states have the most discretion (Atlas 2007). More simply, states may penalize violating facilities much less than the EPA suggests is appropriate, and this is acceptable under the partial preemption system because as long as states are meeting baseline environmental standards, *how* they meet those standards is within their discretion. In fact, even when states do not meet environmental standards, it is very unlikely that the EPA will intervene by taking away state primacy, as studies have found that federal oversight is lax and varies greatly across the states. “The EPA has

never suspended a state's authorization for failure to meet federal requirements, even in cases where states clearly are not enforcing the federal regulations as envisioned" (Konisky 2008, 323; see also EPA/OIG 1998, 2005; GAO 2000, 2006). Therefore, because there are no real federal requirements for state-level enforcement actions—only suggestions—the level and severity of those actions varies by the state.

The Effect of Anti-Enforcement Sentiment on the Frequency and Level of Enforcement Actions

As Konisky and Woods outline in their 2013 evaluation of environmental politics in the American states, the existing environmental policy literature has explored a number of determinants of state-level environmental policy. States may base their environmental policies on need, matching environmental policies to pollution problems (Sapat 2004; Daley and Garand 2005; Lowry 1992), or states may make environmental policies that reflect a pro- or anti-environment citizenry (Hays et al. 1996; Daley and Garand 2005; Woods 2008) or environmental/manufacturing interests within the states (Ringquist 1993; Hays et al. 1996; Bacot and Dawes 1997; Davis and Davis 1999; Daley and Garand 2005). And, finally, the political control of state government may determine what environmental policies look like, with Democratic control leading to stricter environmental policies and Republican control leading to more lenient environmental policies (Wood 1992; Woods 2008; Atlas 2007; see also Hedge and Johnson 2002). These are all accepted explanations for the variation in environmental policies that exists across the American states.

However, one thing that has not been considered in the existing literature is agency design and the enforcement cultures that emerge from agency design choices.

Ringquist's (1995) article about political control effects on bureaucratic outputs is one of few pieces in the existing literature that discuss the impenetrable nature of agency culture. In the article, Ringquist finds that bureaucratic actions are likely affected by elected officials; however, he importantly emphasizes that things like agency values and the general direction of policy are much less likely to be penetrable to political pressure. The crux of *my* argument, as I describe in Chapter 1, is that bureaucratic characteristics that are somewhat insulated from political control, such as culture and values, greatly influence bureaucratic outputs, as well. And, importantly, because of the path dependency of bureaucratic agencies and the difficulties associated with large-scale reorganizations, bureaucratic culture likely continues to affect bureaucratic outputs, even in the face of political control.

As I related in Chapter 1, organizational cultures are powerful motivators of behavior, helping to determine "which tasks are most important" (Wilson 1989, 101). Wilson (1989) labels culture the 'personality' of the organization or the 'way things are done around here,' and he spends a considerable amount of his discussion of why government agencies do the things they do talking about the influence of culture. As Schein (1990) points out, it is impossible to truly understand the actions taken by workers, unless you understand the culture they work within—that lens through which they see all of their prospective goals and tasks. As shown in Chapter 3, the combined agency design serves to protect a dominant anti-enforcement culture within agencies where environmental regulatory programs have been combined with natural resource conservation and possibly public health (although likely to a much lesser extent). This anti-enforcement culture drives agency behavior. Thus, if agency design helps to preserve

the dominance of an anti-enforcement culture that continually shapes day-to-day enforcement decisions, differences in agency design should translate into differences in enforcement behaviors.

Furthermore, while many of the existing explanations for state environmental policy differences point to states' political context as the primary motivator, political control is much less likely to affect deep-seeded cultures within environmental agencies (as argued by Ringquist 1995). The path dependent nature of bureaucratic agencies ensures that these cultures will endure ever-changing political regimes, environmental problems, and technology, producing effects long after agency design choices have been made. In addition to path dependency and a reluctance on the part of many elected officials to engage in costly and contentious bureaucratic reorganizations, the unique economic pressures placed on all state-level bureaucrats help to reinforce the dominance of an anti-enforcement culture within combined agencies, as well. Even as the world changes around environmental agencies, I expect that the combined agency design will continue to protect an anti-enforcement culture that motivates flexibility and cooperation with local industry.

As outlined above, enforcement tools are an important part of the EPA's environmental protection programming, and states can and do differ in their enforcement behaviors. If the combined agency design serves to protect a dominant anti-enforcement culture, states with combined agency designs should provide more flexible and cooperative approaches to industry. Costs to industry as a result of enforcement actions *will* be taken into consideration for states where environmental agencies emphasize flexibility and cooperation with industry. This means the assessment of fewer serious

violations and lower penalties. Thus, I posit my first hypotheses—that (1) the combined agency design will result in a lower percentage of violations that are categorized as severe (eligible for penalization) and (2) the combined agency design will result in lower penalty amounts per facility.

H1: The combined agency design will produce a lower percentage of violations categorized as severe and eligible punishment than the pollution-control (mini-EPA) agency design

H2: The combined agency design will produce lower penalty amounts per facility than the pollution-control (mini-EPA) agency design

Additionally, the path dependent nature of bureaucratic agencies and the unique economic pressures that are universally placed on state-level bureaucrats should insulate and reinforce the decisions motivated by the anti-enforcement culture. Agency design effects on enforcement actions should occur, all the while controlling for states' political context and industrial size.

In addition to my hypotheses about the combined agency design, based on my findings from Chapters 2 and 3, it appears as if the natural resource conservation combination will have a larger effect than the public health combination. Although public health programming differs in its administration and value systems from environmental regulation programming, the emphasis on flexibility and cooperation with industry is a by-product of public health's focus on establishing and treating human health risks. The public health culture is much more amenable to regulatory programming, *when* industry poses a threat to human health, than the natural resource conservation culture, which advocates heavily for cooperation and partnership with industry. This reasoning is

supported by the findings in Chapter 3, where the natural resource conservation combination has a significant and substantive effect on enforcement culture, while I found no support for a relationship between the public health design and enforcement culture. Thus, my third hypothesis specifies that the natural resource combination will have a statistically significant effect on enforcement actions.

H3: The natural resource conservation and environmental protection combination will have a negative effect on enforcement actions (percentage of violations categorized as severe and penalty amounts per facility)

In the following section, I describe the data I use to evaluate the above hypotheses.

Additionally, I provide an in-depth description of important variables.

Data and Methods

In order to test my stated hypotheses, I have constructed a unique data set containing state-level environmental regulation statistics, including total and per capita dollar amounts of penalties assigned to polluters that are found to be in violation of regulatory standards and the way in which states categorize pollution violations (as formal or informal violations). In addition, this data set contains an air quality measure, a measure of bureaucratic capacity, and other state-level variables that I will explain in-depth throughout this section (see Appendix B for the summary statistics and sources of each variable used in Chapters 3 and 4).

The variables in the data set contain data collected from 2010-2014. Although the EPA provides some data that goes back further, compliance and enforcement factors are generally combined over five year terms, making it difficult to determine penalty

amounts per state, per year. Thus, I am restricted to using a shorter time period than preferable. That said, variables of interest, such as the partisan makeup of state institutions, do change over this time period, so while it is not the ideal amount of data, it is sufficient for the purposes of this analysis.¹ In addition, due to some of the time invariant measures in the models, including my primary independent variable, and the need for a lagged dependent variable, I have chosen to use a GLS random effects model for my analyses.²

Dependent Variables

In the following analyses, I operationalize enforcement tools in two ways. I use two variables that measure areas in which states have quite a bit of discretion—how violations are categorized, as either informal or informal violations, and the severity with which states penalize violators, measured by both the total dollar amount of penalties assigned to polluters and the dollar amount of penalties assigned to polluters per facility.

In Models 1 and 3, I use penalty amounts per facility as a dependent variable. This measure reflects variation in the use of enforcement tools among the states because states use a “variety of written penalty policies to determine what penalty [the state]

¹ Robinson and Meier (2006) use a similar time span (four years) to observe path dependence. As they point out, four years of data is not enough to see the initial decision to “embark on one path or another,” but it should be sufficient in showing the effects of different paths from one year to the next (248).

² Given the nature of the data, fixed effects would be the ideal method of analysis; however, I include a theoretically important lagged dependent variable that would likely lead to Nickell bias if I were to use both fixed effects and the lagged dependent variable. The likelihood that this bias would exist is even higher, given my data’s short time span (Nickell 1981; Hsiao 2003). Additionally, It should be noted that rho, or the fraction of the variance due to unit specific error, ranges from ~0-0.19 in the models.

should seek in settling a case, and also what its ‘bottom line’ for the penalty amount will be in settlement discussions with a violator” (EPA 2016 “Intro. Environmental Enforcement and Compliance”). The penalty outcome is directly dependent on how states choose to measure unfair economic benefits and environmental harm, and each state measures these considerations in their own way. Additionally, all states use monetary penalties as an enforcement tool, as the EPA labels penalties an important way to “level the playing field” among businesses, preventing industries from profiting from environmentally dangerous practices.

In Models 2 and 4, I use the proportion of enforcements administered by the state-level agencies that are labeled as formal as a dependent variable. According to the EPA, each state program has different terminology or definitions for what constitutes as formal enforcement (EPA 2010). Typically, informal enforcements simply include some sort of warning letter or notice of violation, meaning that no penalties are ordered. The EPA frowns upon states using informal enforcement mechanisms for hazardous pollutant violations, the most dangerous type of violations, but because states are able to categorize enforcements as they choose, the percentage of enforcements that are labeled as formal violations eligible for monetary penalties varies. This measure qualifies as a robustness check for penalty amounts, as it provides some indication of how willing states are to engage in enforcement activities with industry.

Independent Variables and Controls

I have two independent variables in my analyses. The first is a simple dummy variable for whether or not a state’s environmental protection programs are combined

with an additional policy area (either public health or natural resource conservation). A zero represents the lack of that combination. I use this independent variable to test H1 and H2, in which I predict that the combined agency design will lead to the categorization of a lower percentage of violations as severe and lower penalty amounts per facility, respectively. My second independent variable breaks the combination variable into two dummy variables, one for the public health combination and one for the natural resource conservation combination. The mini-EPA or pollution control agency design is the excluded category. As with the first independent variable a zero represents the lack of these combination types. I test H3—that the natural resource conservation combination will negatively affect the categorization of severe violations and penalty amounts—using this operationalization of the categories of agency design.

To determine whether or not states combined these functions, I used the National Association of Clean Air Agencies' (NACAAs') list of state-level contacts to determine which agencies dealt with ambient air monitoring at the state level. This specification is important, as I am using air quality, monitoring, and enforcement statistics to measure state agency behavior.³ I looked at all fifty websites shown on NACAA's contact list to determine whether or not the kind of public health and natural resource conservation programs I listed in Chapter 1 were included alongside traditional environmental regulation programs, such as air and water compliance. In all, as I shown in Chapter 1, five states combined public health and environmental regulation, and 15 states combine

³ I use ambient air monitoring, rather than other areas of environmental regulation because of the consistency that exists in measurement, especially in comparison to the monitoring of water sources.

natural resource conservation and environmental regulation (see Table 4.2 for a list of states with combined agencies).

The measure of political context and the number of facilities measure in my analyses are important controls because they allow me to directly test my theoretical proposition that agency design should maintain an effect, even when outside pressures are considered. Although there are a number of ways to measure state political control, I use a dummy variable for unified Republican control (1) and the lack of unified Republican control (0). A one represents a state in which Republicans hold a majority in both houses of the legislature and hold the governorship. I use unified Republican control because it may be the case that governors' ability to oversee executive agencies is dependent on the oversight motivations of the state legislature and vice versa. Additionally, Hedge and Johnson (2002) find that unified Republican control has an effect on regulatory behavior, and it is the political control variable that exerted the strongest effect in my models.

For a measure that accounts for the unique pressures faced by state-level bureaucrats, I use the number of polluting facilities. This should help to gauge the dependency of the state on polluting industries and help to control for economic pressures that may vary upon that dependence.

Aside from political control and the number of polluting facilities, I consider two sets of control variables. The first set of variables deals with state need for regulatory environmental programs, and the second set of variables deals with state capacity for implementing regulatory environmental programs. In the first set of variables, measuring

state need, I include the population of the state, an air quality measure, and the number of poor health days.

Table 4.2. List of States by Environmental Agency Design Type

<i>Natural Resource Conservation Combination</i>	<i>Public Health Combination</i>
Connecticut Department of Energy and Environmental Protection	Colorado Department of Public Health and Environment
Delaware Department of Natural Resources and Environmental Control	Hawaii Department of Health
Georgia Department of Natural Resources	Kansas Department of Health and Environment
Florida Department of Environmental Protection	North Dakota Department of Health
Iowa Department of Natural Resources	South Carolina Department of Health and Environmental Control
Maine Department of Environmental Protection	
Michigan Department of Environmental Quality	
Missouri Department of Natural Resources	
New Jersey Department of Environmental Protection	
New York State Department of Environmental Conservation	
North Carolina Department of Environment and Natural Resources	
Rhode Island Department of Environmental Management	
South Dakota Department of Environment and Natural Resources	
Tennessee Department of Environment and Conservation	
Wisconsin Department of Natural Resources	

In the second set of variables, measuring state capacity/ability to implement environmental regulations, I include the physical size of the state, how much money is spent on environmental programs, a measure of bureaucratic capacity, the environmental

ideology of the state (as measured by League of Conservation Voter scores),⁴ the change in state GDP, the passage of laws limiting environmental state agency authority, and state primacy over environmental programs. I will elaborate briefly on the operationalization of state air quality and bureaucratic capacity, as there are a number of ways to measure these variables.⁵

I measure state air quality by using the EPA's measure of "good air days." Good air days mean air pollution poses little to no risk. Specifically, I use the proportion of days labeled as good air days by the EPA to measure state air quality. I use this measure, as it incorporates a number of emissions considerations into a variable that is easy to interpret. To measure bureaucratic capacity/autonomy, I incorporate a suitable proxy that has been used in previous studies (see Nicholson-Crotty and Miller 2012, for example). This proxy is the overall management capacity grades of the states, as published in the 2008 "State Management Report Card" (Barrett and Greene 2008). All of the control variables included in my analyses are standard components of models of environmental agency behavior.

Finally, I include a lagged dependent variable and a lag for air quality. The lagged dependent variable accounts for the path dependent nature of bureaucratic agencies. It is important to consider that bureaucratic agencies will base their current use of enforcement tools on their use of enforcement tools in the previous year. This path dependency plays a pivotal role in the theory of environmental agency design, as the

⁴ Konisky and Woods (2008) state that LCV scores are used frequently to account for the environmental ideology of a state.

⁵ Please refer to Chapter 3 for an in-depth description of the dummy variables for state primacy over environmental programs and the passage of state laws limiting environmental state agency authority.

insulating effects of agency design are manifested through the path dependent nature of bureaucratic agencies. Additionally, the lag for air quality assures that improving environmental conditions in the previous year are not dictating enforcement decisions in the current year.

Results

Table 4.3 shows the effect of combining environmental protection with either natural resource conservation or public health on the enforcement actions taken by state-level environmental agencies. Model 1 shows the effect of the combined agency design on penalties assigned to polluters, and Model 2 shows the effect of the combined agency design on the percentage of violations that are labeled as formal, or eligible for some kind of penalization. As shown in Model 1, the combining environmental protection with public health or natural resource conservation decreases penalty amounts per facility by about \$537. By the end of my time series, this amounts to a decrease of about \$611.⁶ The average penalty assessed per facility in the American states over the time in question is approximately \$967. Thus, it appears that the combined agency design substantively decreases penalty amounts assigned to individual polluters. This finding provides support for H1, in which I posit that the combined agency design should result in a decrease in penalty amounts per facility.

Additionally, while unified Republican control also appears to lead to a substantive long-run decrease in penalty amounts per facility—about \$564—agency

⁶ To calculate long-run effects based on the lagged dependent variable, I use the following equation: $\frac{\beta X_i}{1-\beta Y_{(t-1)}}$

design continues to exert an effect, even when outside political pressures and the size of industry, as measured by the number of polluting facilities, are considered. This finding is what I would expect, given the theory I lay out in Chapter 1, which states that agency design should remain a powerful force, even in the face of outside pressures.

Furthermore, bureaucratic capacity affects the penalty amounts assigned to individual polluters. As states' score higher on the range of management "grades," meaning state bureaucracies better manage resources, staff, information, infrastructure, etc., penalty amounts also increase. The ability of state bureaucracies to manage their tasks, also affects penalty decisions, and this is not a surprising finding, given that agencies' cultures are likely much more influential when the bureaucracy is a powerful actor, working alongside the state legislature and governor.

In sum, Model 1 suggests that the combined agency design and unified Republican control exert strong, negative effects on penalty amounts assigned to individual polluters, providing support for H1. Alongside a marginally significant political control effect and agency design, bureaucratic capacity also appears to affect enforcement actions.

The results presented in Model 2 (Table 4.3) contain both similarities and differences from the results presented in Model 1. As with Model 1, the combined agency design variable in Model 2 appears to continue to exert a negative effect, when we look to another enforcement action—state agencies' categorization of violation types. The long run effect of the combined agency design at the culmination of my time span amounts to about a 14% decrease in the percentage of violations categorized as formal or eligible for penalization. This is a substantive decrease in the percentage of formal

violations, as the sample average is around 45%, meaning that, on average, states between 2010-2014 labeled 45% of their violations as formal or eligible for penalization.

One notable difference between Models 1 and 2 is that while there appears to be a statistically significant relationship between agency design and penalty amounts per facility, the statistical relationship between agency design and the categorization of penalties is only marginally significant (at $p < .10$). Thus, the findings shown in Model 2 provide some support for H2—that the combined agency design will negatively impact the percentage of violations labeled as severe; however, the support for the effect on penalties, as stated in H1, is stronger, given my data.

Another interesting difference between Models 1 and 2 is the effect that unified Republican control has on the categorization of violations. While there is likely a relationship between penalty amounts and unified Republican control, my data provide no support for a relationship between political control and the categorization of violations. Regardless, in combination with the statistically significant lagged dependent variable, agency design is the strongest predictor of violation categorization. Thus, the findings, here, provide some support for H2—that agency design should decrease the percentage of violations labeled as formal or eligible for penalization—and continue to support my theoretical proposition that agency design effects should hold, even given other outside pressures, such as political control. Also, as I mentioned previously, the percentage of violations labeled as formal provides a robustness check for penalty amounts per facility. As a whole, this means that the combined agency design likely bears consequences for a variety of enforcement actions.

Table 4.3 : Effect of Combined Agency Design on Enforcement Actions

	Model 1: Penalties per Facility	Model 2: Percentage of Violations Labeled as Formal
Combined Agency Design	-537.445** (220.305)	-0.064* (0.033)
Unified Republican Control	-496.664* (285.185)	-0.032 (0.041)
Number of Polluting Facilities	0.110 (0.171)	-1.65 [$\times 10^{-5}$] (2.44) [$\times 10^{-3}$]
State Population	0.024 (0.026)	1.02 [$\times 10^{-6}$] (3.72) [$\times 10^{-6}$]
State Square Area	0.001 (0.001)	1.05 [$\times 10^{-7}$] (1.67) [$\times 10^{-7}$]
State Environmental Spending	-0.001 (0.001)	5.29 [$\times 10^{-8}$] (8.27) [$\times 10^{-8}$]
Air Quality	-630.08 (2239.851)	0.024 (0.319)
Air Quality (t-1)	2900.874 (2066.598)	0.036 (0.295)
Bureaucratic Capacity	168.568** (71.191)	-0.004 (0.10)
League of Conservation Voter Scores	-1.618 (5.228)	-0.001 (0.001)
Number of Poor Health Days	114.047 (192.247)	-0.030 (0.027)
Change in State GDP per Capita	-38.427 (56.964)	-0.008 (0.008)
State Agency Authority Laws	117.461 (219.072)	0.045 (0.032)
State Primacy	-270.749 (367.582)	-0.018 (0.052)
Lagged Dependent Variable (t-1)	0.120* (0.064)	0.585** (0.064)
Constant	-1942.465 (1490.602)	0.348* (0.214)
	n= 200	n= 200

Table 4.4: Effect of Agency Design Types on Enforcement Actions

	Model 3: Penalties per Facility	Model 4: Percentage of Violations Labeled as Formal
Natural Resource Conservation Combination	-611.066*** (235.717)	-0.060* (0.035)
Public Health Combination	-224.093 (418.151)	-0.078 (0.060)
Unified Republican Control	-489.861* (285.462)	-0.32 (0.041)
Number of Polluting Facilities	0.095 (0.172)	-1.58 [$\times 10^{-5}$] (2.45) [$\times 10^{-5}$]
State Population	0.030 (0.027)	7.46 [$\times 10^{-7}$] (3.85) [$\times 10^{-6}$]
State Square Area	-0.001 (0.001)	1.27 [$\times 10^{-7}$] (1.83) [$\times 10^{-7}$]
State Environmental Spending	-0.001 (0.001)	5.63 [$\times 10^{-8}$] (8.38) [$\times 10^{-8}$]
Air Quality	-626.010 (2241.21)	0.023 (0.319)
Air Quality (t-1)	2782.337 (2072.211)	0.041 (0.296)
Bureaucratic Capacity	181.960** (72.834)	-0.004 (0.010)
League of Conservation Voter Scores	-0.659 (5.343)	-0.001 (0.001)
Number of Poor Health Days	153.962 (197.616)	-0.031 (0.028)
Change in State GDP per Capita	-55.347 (60.142)	-0.007 (0.009)
State Agency Authority Laws	125.029 (219.372)	0.045 (0.032)
State Primacy	-224.848 (371.470)	-0.020 (0.053)
Lagged Dependent Variable (t-1)	0.118* (0.064)	0.585** (0.064)
Constant	-2076.352 (1499.211)	0.587* (0.065)
	n= 200	n= 200

In Table 4.4, I break down the combined agency design variable into categories of agency design: the natural resource conservation combination and the public health combination. As stated in H3, the natural resource combination appears to have a statistically significant and negative effect on penalty amounts assessed per facility. As the previous chapter suggests, I am less confident in the relationship between the public health combination and penalty amounts. The relationship is not statistically significant; therefore, once again, there is no support for my earlier theoretical proposition that the public health combination leads to fewer and less severe enforcement actions. The natural resource conservation combination, conversely, appears to decrease penalty amounts in the short term by about \$611. The long term effect, given the lagged dependent variable, is a decrease in penalty amounts of around \$693 per facility by the end of my time series. Given that the average penalty amounts assessed by facility in my time series is about \$967, this decrease is substantive, amounting, in the long-term to a decrease in penalty amounts of around 72%.

The findings in Model 3 are in accordance with the findings in Chapter 3 that suggested the natural resource conservation combination would exert a statistically significant and negative effect on enforcement actions, while the relationship between the public health combination and enforcement actions would be less clear. Additionally, as the theory I lay out in Chapter 1 describes, outside pressures such as political control and the size of industry do not overpower the effect of agency design. This is the case, even when the design variable is broken down into different design types—the public health combination and the natural resource combination. Furthermore, as with Model 1, bureaucratic capacity and past agency penalty assessments continue to assert statistically

significant effects on penalty assessments to individual polluters. More simply, Models 1 and 3 produce almost identical results, except Model 3 helps to specify that the combined agency design effect is primarily motivated by the natural resource combination—which provides strong support for my third hypothesis. This is also the case with Model 4.

Looking to Model 4, the results in Model 4 almost perfectly mirror the results in Model 2. The natural resource conservation combination leads to a long-term decrease in the percentage of violations labeled as formal of around 14%. Thus, it is clear from Models 3 and 4 that the natural resource conservation combination truly appears to be driving the effect of the combined agency design variable that we see in Models 1 and 2. Once again, we cannot be confident in the effect the public health combination exerts on violation categorization ($p > .10$). Furthermore, as is the case with Models 1-3, the natural resource combination appears to affect violation categorization, regardless of political control, the number of polluting industries, and a number of other important control variables. In Model 4, agency design is the strongest predictor of categorization decisions, aside from decisions made a year prior.

Discussion

In summary, the models I present, here, provide support for each of my hypotheses. The combined agency design significantly and substantively decreases enforcement actions, as measured by penalty amounts and exerts similar (albeit weaker) effects on the percentage of violations labeled as formal and eligible for penalization. When broken down further, it is clear that the natural resource conservation combination is truly driving the effect of the simple combination variable. This is not all that

surprising, considering the findings in Chapters 2 and 3 that suggest public health culture is potentially more amenable to enforcement—particularly in cases where substantial risks to human health have been established.

That being said, however, there is something important to note about the public health combination findings. Due to the structure of environmental protection data for the American states, it is difficult to obtain data in more than a five-year time span. This greatly diminishes the number of observations available for statistical analysis. Similarly, there are only five states with the public health combination, which further exacerbates this small-n problem. Thus, while there are theoretical reasons to believe that the public health combination may result in a weaker effect, it is possible that the number of observations I use in this analysis is too small to adequately assess the effect of the public health combination. Indeed, workers in combined environmental agencies that I cite in Chapter 2 did express that they felt the pressure of an anti-enforcement culture within their agencies. Thus, while the analyses in this project do not provide support for a public health combination effect, future studies that incorporate more observations could prove to support my earlier theoretical proposition that the public health combination poses similar consequences for enforcement culture and actions.

Aside from the direct effects of agency design, Models 1-4 provide support for my proposition that agency design should continue to have an effect, even when outside pressures, such as the size of industry and political control are considered. The path dependent nature of these bureaucratic agencies allows agency design to continue to insulate enforcement decision-making from outside pressures. Moving through the time span of my study, we can interpret the effect of agency design using the lagged dependent

variable. This is apparent in the long-term effects I cited above, in which agency design both reinforces and strengthens negative effects on enforcement actions over time.

In sum, the statistical analyses I present, here, provide support for the second part of my theory of environmental agency design. Not only does agency design help to preserve the dominance of an anti-enforcement culture within combined natural resource agencies, that anti-enforcement culture can be seen clearly in the effect agency design exerts over enforcement actions, as well. States with combined natural resource conservation agencies are less willing to use enforcement tools (as shown by categorization decisions), and when these agencies do use enforcement tools, they are much more lenient with penalization (as shown by penalties per facility). All of this occurs alongside the effects of political control, the states' capacity for implementing environmental programs, and the states' need for regulation. As I elaborate on in the conclusion of this study, agency design proves to truly alter the way state-level environmental agencies enforce environmental regulations. In addition to these primary findings, I would like to discuss two other interesting findings that emerge from the models I present in this chapter: (1) the strong effect of bureaucratic capacity on penalty decisions, and (2) the weakening/disappearing of effects, when the percentage of violations labeled as formal is my measure of enforcement actions.

In Models 1 and 3, states' bureaucratic capacity/autonomy have a significant impact on the assessment of penalties. In sum, this measure tells us how well state agencies collect and use policy information, how well they attract and retain agency workers, how well they allocate their resources, and how well bureaucracies are physically constructed to facilitate their programs (Pew 2008 "Measuring Performance").

As I state previously, this is a measure that encapsulates many components of what we would consider bureaucratic ‘capacity’—the overall ability to implement policies. Upon closer examination this finding is not all that surprising because states with higher levels of bureaucratic capacity are not at as much of a risk of mismanaging funds or inadequately evaluating agency programs. According to Models 1 and 3, more autonomous environmental agencies will produce slightly higher penalty amounts, regardless of political control or agency design, and this makes sense because greater bureaucratic capacity likely makes agencies less susceptible to outside pressures. In the future, it would be interesting to delve into how bureaucratic capacity and agency design may interact with one another to create a unique set of consequences. It is possible, for example, that high levels of bureaucratic capacity may increase the insulation effects of agency design, further insulating a pro- or anti-enforcement culture from political pressures.

In addition to the powerful effect exerted by bureaucratic capacity, one part of the findings in this chapter that stands out is the weaker influence that design and other variables hold over categorization decisions. While design choices do lead to a smaller percentage of violations labeled as formal and eligible for punishment, I am less confident in the relationship between agency design and categorization decisions than I am in the relationship between agency design and penalty amounts. Although I can only speculate, it is possible that agency design would have a more powerful effect on the number of total inspections that result in a formal violation, rather than the percentage of total violations that is categorized as formal. Surely, categorization is a kind of enforcement decision—it sets the stage for penalization—however, the initial decision to

cite a violation and the subsequent label of that violation as severe may be a more valid measure of an agency's willingness to consider enforcement actions than simply the percentage of violations that end up as formal or eligible for punishment. In future studies, other forms of enforcement actions must be considered to ensure that these findings are robust.

In this chapter, I have found support for the second and final part of my theory of environmental agency design: the dominant anti-enforcement culture actively protected by the combined agency design translates into more flexibility with industry, decreasing the number of enforcement actions taken by agencies. In particular, the natural resource conservation combination leads to decreases in both individual penalty assessments and the percentage of violations that are categorized by the agency as formal or eligible for penalization. Additionally, agency design continues to exert an effect, even when a variety of outside pressures are considered, and the path dependent nature of these agencies reinforces and strengthens the effect of their dominant anti-enforcement cultures. The results of this chapter and Chapter 3 suggest that many of the existing explanations for differences in enforcement decisions across the American states may omit a number of important variables—bureaucratic characteristics, such as bureaucratic culture, values, and structural elements. In my concluding chapter, I will discuss, further, the implications of this study for future research.

Chapter 5: Conclusions and Future Directions

In any thorough evaluation of bureaucratic control mechanisms, agency design choices are referenced as a powerful way to “shape the environment of an agency by creating a climate hostile to or receptive to agency programs” (Meier and Bohte 2007, 161; see also Hult and Walcott 1989; 1990). More simply, where programs are placed determines their fate. In 1970, the states were mandated to take part in a new slate of regulatory environmental programs. This new definition of environmental protection—a definition that focused on controlling industry—was far different than the approaches states took to environmental protection prior to 1970. For at least 75 years prior to the establishment of the EPA, the states had collected data on water pollution, establishing how best to contain public health risks, and states had evaluated their natural resources, determining how best to preserve them for future economic success. Environmental protection was about determining and treating human health risks, stopping the spread of disease, and protecting valuable contributors to the state economy. The introduction of more regulatory programs in the 1970s produced a conflict of values—regulatory programs challenged “the way things are done around here” in the states.

For most states, the key to addressing this conflict was to separate the new regulatory programs from preexisting environmental protection efforts, creating their own mini-EPAs to implement EPA-directed mandates. In other states, the conflict would rage on, as regulatory programs were placed within the dominant agency cultures of natural resource conservation and public health agencies/boards. In this study, I have looked closely at the effect of these agency design decision, and I have found that the enforcement embraced by environmental regulatory programs is difficult to implement

when it is facilitated from within a culture that rejects this regulatory approach. Agencies, such as MODNR and KDHE, have long held on to their dominant natural resource conservation and public health cultures, and the values, preferences, and beliefs inherent to those combined agency cultures continually pressure environmental workers.

Combining environmental regulatory programs with natural resource conservation/public health programs protects the status quo, helping to maintain a dominant anti-enforcement culture within natural resource conservation and public health agencies. This anti-enforcement culture fundamentally shapes the way workers feel about and utilize enforcement actions. Combined agencies, particularly natural resource combination agencies, penalize less frequently and with less severity than singular, pollution-control agencies. More simply, combined agencies make different enforcement decisions than pollution-control agencies or mini-EPAs. And, with differences in enforcement decisions is a possibility of differences in environmental outcomes.

There is a wealth of literature that discusses the merits of both more cooperative approaches to environmental protection (De Gennaro 2004; Tomer and Sadler 2007; Cropper and Oates 1992) and the traditional, enforcement-based command and control approach to environmental protection (Moore 2003; Tietenberg 2002). Those arguing for more cooperative approaches point to the ability of market-based incentives to reduce pollution for some sources at comparable rates for a lower cost (Schmalensee et al. 1998; see also Berck and Helfand 2005 for an in-depth description of this argument) and to spur technological innovation on the part of polluting industry (Milliman and Prince 1989). Conversely, those in favor of command and control approaches point to the higher costs associated with monitoring under more cooperative approaches (Berck and Helfand

2005) and the inability of market-based incentives to curb pollution levels across all sources. Market-based incentives lead to a concentration of pollution levels within areas that are highly sensitive to pollutants (Stavins 1996). One thing that is clear from the diverse arguments surrounding more cooperative approaches to environmental protection and enforcement-based approaches to environmental protection is that both approaches have pros and cons in terms of cost and effectiveness. However, one thing missing from this literature are clear conclusions about whether or not stricter enforcement actions lead to decreases in pollution levels that significantly impact human health. This matters, in regards to my study, because differences in enforcement actions primarily matter if these differences translate into differences in environmental health.

According to the World Health Organization, outdoor air pollution causes ischaemic heart disease, strokes, chronic obstructive pulmonary disease, lung cancer, and acute lower respiratory infections in children (WHO 2014). And, research shows that “water, air, and soil pollution causes 40 percent of deaths worldwide” (Lang 2007). Previous research suggests that more protective policies in the American states lead to better environmental conditions (Konisky and Woods 2013; Ringquist 1993; Ringquist 1995; Woods et al. 2009). The primary issue apparent in the existing research is that there is disagreement among researchers about what constitutes as a “strong” environmental program. I briefly outlined those disagreements above.

Given my findings in this study—that agency design affects the implementation of enforcement in the American states—it is imperative that we better understand the connection between approaches to enforcement and broader health outcomes. Much of the existing literature that I cited above focuses on how different approaches to regulation

lead to different levels of cooperative or compliance; however, they fail to assess whether those differences in cooperation or compliance then lead to significant differences in human health. Although this connection between enforcement decisions and actual human health outcomes is a point of interest for my own future research, this kind of research requires a larger interdisciplinary effort that has long been missing in the environmental politics and economic literature. We must first create a comprehensive model of environmental health before we can adequately describe the consequences of different approaches to enforcement. Thus, for the purposes of the present study, I can only claim that agency design affects the way states approach enforcement and that those differences in enforcement *could* potentially affect human health. I cannot say that lower levels of enforcement are harmful to human health without a much more thorough examination of how enforcement actions affect consequential pollution levels.

Alongside a lack of clarity in regards to how enforcement decisions affect environmental conditions and health outcomes, the existing public administration and political science literatures have long-focused on political control models that routinely exclude bureaucratic characteristics. My finding that agency design is pivotal in explaining regulatory outputs supports the notion that there is more to the story than “Republican-controlled states regulate less” and “Democratic states regulate more.” Factors, such as agency design and agency culture, are too impactful to omit from future studies of bureaucratic behavior. We cannot continue to ignore characteristics of the institutions that execute the implementation efforts we seek to explain. Measures of abstract concepts such as agency culture are difficult to construct; however, innovative methodologies, like the content analysis method I use in Chapter 3, can help us to garner

a clearer understanding of how these complex and powerful forces shape the way our largest portion of government behaves. In a democratic system that relies upon elected officials to hold unelected bureaucrats accountable, any bureaucratic characteristic that shields bureaucracies from these elected officials is worthy of our consideration. We will only gain a clear picture of “what government agencies do any why they do it” when we understand both the external and internal pressures that shape bureaucratic decision-making.

In this dissertation, I have described a theory of environmental agency design. The American states play a large role in the implementation of regulatory environmental policies. With a considerable amount of discretion over how environmental programs are structured and executed, states have chosen a variety of paths. The choice to nest environmental regulatory programs within natural resource conservation and public health agencies helps to protect the dominance of an anti-enforcement culture within combined agencies. The anti-enforcement culture within combined agencies continually affects enforcement decisions, as the agencies’ designs insulate workers from outside political pressures. In sum, combined agencies feel differently about enforcement, and they execute enforcement differently, especially in natural resource conservation agencies where the anti-enforcement sentiment is traditionally and historically strong.

Beyond this dissertation, I will look to connect differences in enforcement approaches to health outcomes and will look to the effects that these combinations pose for public health and natural resource conservation approaches. For example, while these combinations appear to affect enforcement approaches, might the design also affect land management approaches and approaches to disease control? Similarly, environmental

agencies are far from the only agencies to incorporate combined structures. In the future, I seek to expand this theory of design to other types of agencies, further emphasizing the consequential nature of agency design choices. Although there is much work to be done—we must show how fluctuations in enforcement affect environmental conditions/health outcomes and determine how other internal bureaucratic characteristics work alongside design to shape outputs—this study independently contributes to the broader environmental and bureaucratic politics literatures, suggesting that in order to understand environmental protection in the American states, we have to first understand the regulation that comes from combination.

APPENDICES

Appendix A. Interview Questions

1. Thank you for speaking with me. Could you please tell me your official job title?
2. How long have you currently been employed in that position?
3. What does a typical day consist of for you? For example, what tasks do you perform on a daily basis?
4. What task is most important in your every day work?
5. What would you say are the agency's main goals?
6. Which goal do you think is the agency's number one priority?
7. What are your own personal work goals?
8. Which of your personal goals is your number one priority?
9. Do you feel as if your daily tasks are directly related to the agency's main goals?
 - 9a. (If yes...) Do you think this makes your job easier to perform? Why?
 - 9a. (If no....) Do you think this makes your job more difficult to perform? Why?
10. Do you think that each agency program receives a proportionate amount of resources or focus?
 - 10a. (If no)... which program receives the most resources/focus? The least?
11. Do you feel as if the agency is supported by the state legislature? What about the governor?
12. Do you feel as if the work *you* perform for the agency is supported by the state legislature? What about the governor?
13. (if applicable) Do you feel as if the combination of (natural resource conservation, energy, or public health) with environmental regulation affects what programs are focused on by your agency? In what way?
14. Do you prefer an agency in which environmental regulation is separate from (natural resource conservation, energy, or public health)? Why/why not?
15. Has there been any discussion regarding separating (natural resource conservation, energy, or public health) from environmental regulation or combining programs together? If so, could you describe that discussion for me?
16. Do you feel that you manage environmental protection with tools similar to the federal Environmental Protection Agency? If so, what tools are similar? If not, how does your agency differ?
17. Is there anything else you care to discuss with me?
(any additional contacts?)

Appendix B. Summary Statistics and Sources

<i>Variable</i>	<i>Obsvs.</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min.</i>	<i>Max.</i>	<i>Source</i>
Combined Agency Design	250	0.40	0.49	0	1	NACAA
Public Health Combination	250	0.10	0.30	0	1	NACAA
Natural Resource Combination	250	0.30	0.46	0	1	NACAA
Unified Republican Control	250	0.41	0.49	0	1	Natl. Conference of State Legislatures
Number of Polluters	250	841.00	699.43	95	3463	EPA: ECHO
Population	250	6183000.68	6814000.16	568000	37342000	U.S. Census Bureau
Environmental Spending	250	203877000.30	267437000.30	3180000	1593000000	State Environmental Protection Budgets
State Square Area	250	75885.16	96294.77	1545	663267	U.S. Census Bureau
Air Quality	250	0.80	0.08	0.59	0.94	EPA: Air Quality Index Report (Percentage of "good" air days)
Bureaucratic Capacity	250	4.86	1.51	1	8	Pew Grading the States 2008 Report
Average League of Conservation Voters Score	250	47.73	28.55	0	100	League of Conservation Voters
Percentage Change in State GDP	250	1.19	2.28	-6.40	13.40	Bureau of Economic Analysis
State Laws Limiting Environmental Agency Discretion	250	0.38	0.49	0	1	Natl. Conference of State Legislatures
Penalty Amounts per Facility	250	966.52	1715.97	0	15905.94	EPA: ECHO
Percentage of Violations Labeled as Formal	250	0.45	0.23	0	1.0	EPA: ECHO

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