

# Public Opinion on Environmental Policy in the United States

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In the United States, as in any democracy, scholars believe that public opinion is an important potential determinant of the nation's policy agenda (Kingdon 1995; Guber and Bosso, this volume). One mechanism for this influence is survey research, which can illuminate the public's views and wishes. Environmental issues were largely overlooked in opinion surveys until 1965, when they began to garner significant media and political attention (Dunlap 1991b). Events such as the inaugural Earth Day in 1970, with an estimated involvement of twenty million people, received massive exposure that helped consolidate a growing public awareness of the environment and the damage that humans could do to it (Dunlap 1989). As a result, news media and public polling organizations during the last few decades have routinely asked Americans questions about environmental issues. These surveys have received regular news coverage, bringing their results into the set of considerations that could influence American politicians as they crafted and voted on proposed legislation. While this research has been done and disseminated, academic scholars have conducted many other surveys and published their own investigations of the nature, origins, and consequences of public opinion on the environment.

In exploring these issues, pollsters and academics have developed a wide variety of questions to measure environmental attitudes and beliefs. But different studies have used different measures and have made very different assumptions about the underlying structure of these items (for an overview, see Dunlap and Jones 2002). Some research has reported evidence that has been interpreted to indicate that many seemingly dissimilar measures are surface manifestations of just one underlying attitudinal dimension (e.g., Guber 1996; Pierce and Lovrich 1980; Xiao and Dunlap 2007). Other research has suggested that a small set of factors underlie sets of attitudinal measures (e.g., Buttel and Johnson 1977; Carman 1998; Van Liere

and Dunlap 1981).

Prominent in the latter group are many studies that have used the New Environmental Paradigm (NEP) Scale (Dunlap and Van Liere 1978), which has sometimes appeared to tap two or more underlying latent factors (Dunlap, Van Liere, Mertig, and Jones 2000, 430-431). And still other research has interpreted weak correlations between different measures of environmental attitudes and beliefs as indicating a much larger set of underlying constructs (e.g., Cluck 1998; deHaven-Smith 1988, 1991; Klineberg, McKeever, and Rothenbach 1998). Looking at such data, deHaven-Smith (1991, 97) argued that “researchers should abandon survey designs and statistical techniques that presuppose the existence of a generalized concern for the environment. Survey questions that lump numerous environmental issues together and scales that combine responses to a variety of environmental items are based on faulty premises.”

This chapter reviews an array of survey questions that have been employed in past research in the United States, along with evidence addressing the question of whether these items are best thought of as unidimensional or multidimensional. We begin by outlining our main theme: employing different measures of environmental attitudes and beliefs leads to strikingly different conclusions about Americans’ commitment to environmental protection. We assess evidence on the measures’ trends over time and the measures’ correlations with social and political variables. Taken together, this evidence leads us to conclude that each measure has integrity and would be best examined on its own, rather than combined with other measures into indices seeking to describe higher-order constructs. We then consider evidence on how such environmental attitudes and beliefs may have impacted environmental policy via candidate choice, dynamic representation, and ballot propositions (see chapters by Below, Daley, and Guber and Bosso in this volume). Finally, we highlight directions for future research on public

opinion and environmental policy.

## **1. Measures of Environmental Attitudes, Beliefs, and Preferences**

A search of data across a wide array of surveys of representative national samples of American adults yielded questions that we assigned to sixteen categories, which are described in Table 1 along with example questions of each type.<sup>1</sup> Viewed from a distance, many of these categories might seem to tap a single underlying construct that could be termed “support for environmental protection” or “concern about the environment.” But we believe that this would be a mistake. For policymakers or politicians interested in assessing Americans’ preferences on environmental policy, attempting to interpret every environmentally-relevant survey question as indicative of general “environmental concern” is likely to be more mystifying than enlightening.

[Table 1 about here]

For instance, according to some of these questions, Americans appear to be overwhelmingly “concerned” about the environment. In Gallup Organization surveys between 1989 and 2011, for example, the vast majority of respondents (between 78% and 91%) said that they worried a “great deal” or a “fair amount” about pollution of rivers, lakes, and reservoirs; similar majorities (between 69% and 88%) said they worried a “great deal” or a “fair amount” about air pollution.<sup>2</sup> Moreover, most Americans have favored various types of environmental protection efforts. In General Social Survey (GSS) surveys between 1982 and 2010, for example, consistent majorities (between 50% and 75%) have said we are spending “too little” on “improving and protecting the environment,” while small minorities (between 4% and 13%) have said we are spending “too much.”<sup>3</sup>

By other metrics, however, Americans appear to be “unconcerned” with the environmental cause. In March 2010, when Gallup asked the standard open-ended “Most

Important Problem” (MIP) question – “What do you think is the most important problem facing this country today?” – just 2% of people mentioned the environment or pollution, a rate typical of surveys in recent years. This finding has led some scholars to conclude that the salience of environmental issues is very low (e.g., Bosso and Guber 2006). Yet in the same poll, when Gallup asked a slightly different question – “Looking ahead, what do you think will be the most important problem facing our nation 25 years from now?” – the environment and pollution were mentioned second-most often (by 11%), behind only the federal budget deficit (14%), and tied with mentions of the economy in general (11%). Experiments embedded in several 2009 surveys replicated this pattern: when people are asked the traditional MIP question, they rarely mention the environment or global warming; but when people are asked to identify “the most serious problem facing the world in the future if nothing is done to stop it,” the *most* frequent issue domain mentioned is the environment and global warming, cited by over 20% of respondents (Yeager, Larson, Krosnick, and Tompson 2011).

From the above examples, we conclude that a single survey item can make it appear as if the majority of Americans have been overwhelmingly committed to environmental protection, unconcerned about the environment, or almost anywhere in between. In other words, conclusions about the American public’s degree of environmental concern will vary depending on the particular measures employed to operationalize “environmental concern.”

## **2. Multifaceted Environmental Attitudes and Beliefs**

### **2.1. Trends Over Time**

The same conclusion is supported by past studies of trends over time in environmental beliefs and attitudes. Many claims have been made about these trends. For example, Erskine (1972) described how public concern about the environment quickly became widespread

between 1965 and 1970. After the inaugural Earth Day in 1970, concern is said to have declined somewhat during the ensuing ten years but remained substantial (Dunlap 1991b). During the 1980s, public support for environmental protection is said to have surged to record-high levels (Dunlap 1991a), reaching a peak with the 20<sup>th</sup> anniversary of Earth Day in 1990, and then subsided to a more moderate level, where it remained throughout the 1990s (Dunlap 2002). In the early-mid 2000s, environmental concern is said to have declined (Bosso and Guber 2006).

This may not be the most sensible way to characterize public opinion. As just a small set of evidence, consider Figure 1, which displays “proenvironmental” trends over time in answers to eight survey questions that were asked frequently between 1973 and 2010. In fact, just one of these time trends matches the narrative in the previous paragraph:

- The environmental spending item shows the purported decline in the 1970s, the rise in the 1980s, and the decline in the early 1990s, but shows an increase in the early 2000s rather than a decrease.
- The environmental government regulation item shows a different pattern – an increase in the 1980s and a decrease in the early 1990s; but it, too, shows an increase rather than a decrease in the 2000s.
- The environmental protection importance item shows the increase in the 1980s and the decrease in the early 1990s, but it again shows an increase in the 2000s.
- The item trading off the environment against economic growth shows the 1980s increase, but it shows a rise across the 1990s and a series of sharp decreases in the 2000s, broken by an upward spike in 2010.
- The proportion of people denying a tradeoff between environmental protection and economic prosperity shows yet another pattern, with a slow increase in denial

across the 1980s and a sharp increase in denial in the early 1990s.

- The retrospective environmental quality assessment shows the claimed sharp increase in negative evaluations in late 1980s and a decline in those evaluations in the 1990s.
- The current environmental quality item shows an increase in negative evaluations across the 2000s and a sharp decline in 2010.
- Finally, the prospective environmental quality item shows no change in the early 1990s, even while the other seven items exhibited dramatic changes.

Figure 1 suggests that general concern about the environment is not manifested equivalently by the array of measures illustrated there. Instead, the various measures all appear to have integrity and to tap distinct judgments.

[Figure 1 about here]

What factors might explain these many variations in the public's environmental attitudes and beliefs over time? First, support for environmental protection is thought to be contingent on favorable economic conditions (Elliott, Regens, and Seldon 1995). As one journalist noted in the wake of the 2008 election: "Concern for the environment is traditionally the first thing thrown overboard when economic seas get rough" (Walsh, 2008).

Second, public opinion may react to changes in the condition of the natural environment. In particular, dramatic events such as the 1979 Three Mile Island nuclear accident or the 1989 *Exxon Valdez* oil spill may have played key roles in affecting public thinking (Leiserowitz, Kates, and Parris 2006). In Figure 1, for instance, the 2010 spike in the item trading off the environment against economic growth coincided with widespread media coverage of the *Deepwater Horizon* oil spill in the Gulf of Mexico.

Third, some changes in opinion may be attempts to minimize social change. Specifically, when government policy moves in one direction, the public may move in the opposite direction to restrain government's movement. For example, growth during the 1980s in some proenvironmental attitudes has sometimes been viewed as a reaction against the Reagan administration's opposition to environmental regulation (Dunlap 1991a, 1995). Although public attitudes do not appear to respond in this manner to levels of federal spending on the environment (Wlezien 1995), some evidence suggests that such "thermostatic" adjustment has occurred in response to changes in state-level funding of environmental programs (Johnson, Brace, and Arceneaux 2005).

Fourth, public opinion on environmental issues may be shaped by advocacy efforts from the environmental movement. Strong public support for environmental protection increases the credibility of proenvironmental groups (Mitchell 1984), so it is not surprising that efforts to activate public concern are common activities for such organizations (Brulle 2010). Advocacy by organizations opposed to the environmental movement, such as trade associations, could be similarly influential (see Duffy's chapter in this volume).

Finally, cohort replacement may generate compositional changes in the environmental attitudes held by the public (Kanagy, Humphrey, and Firebaugh 1994). As we will discuss shortly, the impact of these and other forces on public opinion appear to be different for different beliefs and attitudes, the investigation of which will be a useful agenda for future research.

## **2.2. Social and Political Correlates**

If the various environmental attitude and belief measures described above tap a single underlying construct (e.g., "concern about the environment"), they should be similarly associated with other social and political variables. But as our review below illustrates, and as several



scholars have suggested (e.g., deHaven-Smith 1988; Klineberg, McKeever, and Rothenbach 1998), such uniformity does not appear to be the case (see also Diamantopoulos et al. 2003).<sup>4</sup>

*Age.* Scholars have argued that age should be negatively related to proenvironmental attitudes. One possible reason is cohort effects: younger birth cohorts, born after the 1970s surge in environmental concern, may have experienced more “proenvironmental” socialization (Hays 1987; Kanagy, Humphrey, and Firebaugh 1994). Another possible reason is life cycle effects: younger adults may be more open to social change generally and therefore more accepting of arguments made in favor of protecting the environment (Van Liere and Dunlap 1980). Consistent with this logic, younger Americans have been more likely to support increased spending on “improving and protecting the environment” (Jones and Dunlap 1992). Most studies have also found a negative relation between age and the NEP (Dunlap et al. 2000). However, Samdahl and Robertson (1989) reported a *positive* association between age and a composite gauging support for five specific environmental regulations, e.g. implementing “stronger laws to control transportation and dumping of hazardous waste.”

*Income.* Some researchers have suggested that pro-environmental attitudes should be concentrated among wealthy Americans, since poorer Americans must be more concerned with meeting their basic economic needs, whereas wealthy Americans can afford the “luxury” of concern for the natural environment (for a review, see Van Liere and Dunlap 1980). Yet income has proven to be an inconsistent and typically a poor predictor of support for increased spending on the environment (Jones and Dunlap 1992). Moreover, Uyeki and Holland (2000) found that income was *negatively* associated with a scale they labeled “Pro-environment,” comprised of items measuring agreement with three assertions: “economic growth always harms the environment,” “almost everything we do in modern life harms the environment,” and “nature

would be at peace and in harmony if only human beings would leave it alone.”

*Education.* Scholars have argued that educational attainment should be positively related to environmental attitudes, since more education is likely to facilitate awareness and understanding of complex environmental problems (Howell and Laska 1992, Van Liere and Dunlap 1980). In line with this reasoning, more educated respondents have been more likely to support increased environmental spending (Jones and Dunlap 1992). Also, studies have typically found a positive relation between education and the NEP (Dunlap et al. 2000). However, Buttel and Johnson (1977) found no significant association between education and an index of three items that gauged the urgency respondents felt for dealing with local environmental problems, support for more government effort to curb air and water pollution, and support for the creation of more parks. Samdahl and Robertson (1989) reported that education was *negatively* associated with a composite measuring support for environmental regulations. And Uyeki and Holland (2000) found that education was negatively associated with their scale of pro-environmental attitudes.

*Party Identification and Political Ideology.* In the early 1970s, the environment was a relatively nonpartisan issue, and the Republican and Democratic parties were seen as about equally likely to favor environmental protection (Ogden 1971). During the past 30 years, however, Democrats (and liberals) and Republicans (and conservatives) have been modestly differentiated in at least some environmental beliefs and attitudes (e.g., Kamieniecki 1995). For example, Democrats and liberals have been more likely than Republicans and conservatives to endorse the goals of the environmental movement, to think of themselves as active in or sympathetic towards the movement, and to believe that environmental organizations have done more good than harm (Below, this volume; Dunlap, Xiao, and McCright 2001). Most studies

have found the NEP to be positively associated with liberalism (Dunlap et al. 2000). Party identification and ideology measures have been significant predictors of preferences regarding environmental spending, with Democrats and liberals more likely to support increased spending (Jones and Dunlap 1992), as well as “feeling thermometer” ratings of environmentalists, with Democrats and liberals more likely to say they felt warmly towards environmentalists (Guber 2003, Ch. 4).

However, it is important not to exaggerate the magnitude of these partisan and ideological divides: majorities of both Democrats (74%) and Republicans (51%) reported being either active in or sympathetic to the environmental movement in a March 2010 Gallup poll. Thus, while clear partisan differences over the environment exist, it is not true that a majority of Republican citizens disagree with the majority of Democratic citizens on this issue (though partisan elites, such as members of Congress, appear to be much more polarized, at least as judged by their voting records; see Kraft’s chapter in this volume). Along these lines, some studies have found that partisan differences on environmental attitudes, even when statistically significant, are small in magnitude compared to ideological differences (Howell and Laska 1992, Jones and Dunlap 1992). Accordingly, Pierce and Lovrich (1980) found that ideology, but *not* party identification, was significantly associated with one’s orientation towards a “preservationist” identification versus a “developmentalist” identification. In contrast, Uyeki and Holland (2000) found that party identification, but *not* ideology, was significantly associated with their scale of proenvironmental attitudes, with Democrats being more proenvironmental (see Below, this volume).

*Race and Ethnicity.* Whites and Blacks have not differed in consistent ways across a broad range of environmental attitudes and beliefs (Mohai 2003), despite several theoretical

arguments suggesting that racial differences might be expected in one direction or another (Mohai and Bryant 1998). Jones and Dunlap (1992) reported that race was a poor predictor of support for environmental spending, but when differences existed, non-Whites were more likely than Whites to support increased spending. Mitchell (1980) found that Blacks were less likely than Whites to describe themselves as sympathetic to, or active in, the environmental movement. Mohai and Bryant (1998) found few differences between Black and White respondents' ratings of the seriousness of various environmental problems, although Whites were more likely to describe depletion of the ozone layer as a "very serious" problem, and Blacks were more likely to describe air pollution and water pollution as "very serious." Whittaker, Segura, and Bowler (2005) found that Hispanics were more likely than non-Hispanic Whites to support increased state-level spending on environmental regulations and to express concern about protecting the state's environment, but were no more likely to describe themselves as environmentalists. Thus, different environmental attitudes have correlated differently with race and ethnicity.

*Gender.* Scholars have suggested that women should be more proenvironmental than men, owing to more socialization as nurturers (Davidson and Freudenburg 1996), greater perceived vulnerability to risk (Bord and O'Connor 1997), and/or higher levels of altruism (Dietz, Kalof, and Stern 2002). Gender has usually been unrelated to support for increased spending on the environment; when a gender difference has appeared, women have been more likely than men to support increased spending (Jones and Dunlap 1992). Blocker and Eckberg (1989) found that women expressed more concern than did men about local environmental problems (e.g., local water or air pollution), but women and men did not differ in their answers to questions about trade-offs, such as agreeing that "we should maintain our efforts to control pollution, even if this slows down the economy and increases unemployment." Mohai (1992)

found that women were more likely than men to view six out of six specific environmental problems as serious but were less likely than men to report membership in environmental organizations.

Stern, Dietz, and Kalof (1993) found that women were more willing than men to pay higher income taxes and gasoline prices to accomplish environmental protection. Blocker and Eckberg (1997) reported that women were more pro-environmental than men in their “environmental fears” about, for example, pollution, nuclear power, pesticides, and the greenhouse effect, but these investigators found no gender difference regarding whether government should require people and businesses to protect the environment. Thus, the existence and extent of gender differences in environmental attitudes appear to vary depending on which environmental attitude is being measured.

*Our investigation.* To further investigate the relations of different environmental attitudes with demographics and political variables, we analyzed data from the 1996 American National Election Studies (ANES) survey, which included a rich battery of ten environmental items. These questions asked about government effort towards environmental protection, reducing air pollution, managing natural resources, cleaning up lakes and parks, cleaning up hazardous or toxic waste, reducing solid waste and garbage, and addressing global warming; federal spending on environmental protection; trade-offs between environmental protection and jobs; and environmental regulation of business.

We estimated the parameters of ten OLS regression equations gauging the associations of various demographic and political variables with the ten environmental items above.<sup>5</sup> We found only one consistent pattern across the ten items: Republicans were significantly less pro-environmental than were Independents on nine out of ten measures. No other demographic or

political variable had a similarly uniform effect across all ten environmental questions. Liberals were more pro-environmental than moderates according to five of the measures, but not according to the other five. Blacks were more likely than Whites to prefer increased government effort on addressing global warming and reducing solid waste, but did not differ on any of the other eight measures. Most strikingly, women were *more* likely than men to support environmental regulation of business, but *less* likely to support increased spending on the environment. These are all instances confirming Van Liere and Dunlap's (1981, 669) observation that "a composite scale including diverse dimensions of environmental concern might 'mask' the true relationships between the dimensions and, for example, selected demographic variables." Depending on which measure of environmental attitudes a researcher uses, he or she could reach different conclusions about the correlates of pro-environmental attitudes.<sup>6</sup>

### **3. Implications for Environmental Policy**

Scholars of public policy often refer to the policy process model to help understand the dynamics of policymaking (Kraft 2011, Ch. 3). In brief, the model consists of six stages: *agenda setting*, in which issues are recognized as problems worthy of government attention (Kingdon 1995); *policy formulation*, in which solutions are proposed; *policy legitimation*, in which policy action is authorized by law or other means; *policy implementation*, in which resources are deployed to put programs into effect; *policy evaluation*, in which success is measured relative to objectives and costs; and *policy change*, in which programs are revised or even terminated. In the United States, environmental policymaking over time has been highly discontinuous, marked by long periods of stability with occasional bursts of rapid change (Repetto 2006).

The policymaking process emphasizes that the impact of voters' environmental attitudes

on governmental action is felt largely, though not entirely, through the politicians they elect. In fact, public opinion on the environment can shape environmental policy in at least three distinct ways. First, citizens' environmental attitudes may influence their votes in elections when candidates are perceived to favor different approaches to environmental policies, sweeping into office those legislators who hold the preferences of the majority of their constituents. Second, officeholders may choose to vote on pieces of environmental legislation in ways that anticipate the likely electoral consequences of voters' environmental attitudes. Third, voters may choose to support or not support statewide ballot propositions focusing on environmental policies. We discuss each of these next.

### **3.1. Candidate Choice and the Environment**

Many scholars have observed that environmental issues have not seemed to substantially impact citizens' voting behavior. For example, Ladd and Bowman (1995, 44) said that "election results seem to suggest that the issue is not a significant one for most voters." Repetto (2006, 3) remarked that "environmental causes seem to have won people's support but not strongly enough to change their buying behaviors or their votes." Correspondingly, Guber (2001b) found that preferences for protecting the environment over protecting jobs had only a minimal association with voter choice in the 1996 presidential election.

However, other studies suggest that different environmental attitudes *have* been important drivers of many election outcomes. Davis and Wurth (2003) studied the 1996 presidential election using the same data and control variables as Guber (2001b) and found that attitudes towards spending on environmental protection were significant predictors of vote choice, advantaging Bill Clinton over Bob Dole. Extending this work, Davis, Wurth, and Lazarus (2008) found that attitudes towards environmental spending were significantly

associated with presidential candidate evaluations in every presidential election between 1984 and 2000, and that environmental spending preferences were significantly related to presidential vote choice in 1984, 1988, 1992, and 1996, though not in 2000. In each case, people more supportive of spending to protect the environment were more supportive of the Democratic Party's candidate. Alvarez and Nagler (1998) found that voters were less likely to support presidential candidates in the 1996 election whose views on environmental regulation were distant from their own.

We examined this issue further by gauging the relations between presidential candidate choice and all ten environmental attitude measures included in the 1996 ANES survey. Candidate choice was operationalized in two different ways: (1) vote choice, reported after the election, and (2) the difference between feeling thermometer ratings of Clinton and Dole, following Davis, Wurth, and Lazarus (2008). In each model specification, we controlled for a standard array of political and demographic covariates.<sup>7</sup>

When all ten environmental items were considered individually in logistic regressions, more pro-environmental attitudes were positively associated with the likelihood of voting for Clinton over Dole, but only one item reached conventional levels of statistical significance, while two others were marginally significant.<sup>8</sup> When we conducted OLS regressions predicting the difference between Clinton and Dole feeling thermometer ratings, we found stronger and more consistent relations: for nine of the ten environmental attitude measures, more pro-environmental attitudes were associated with significantly more support for Clinton, though this was not true for the tenth.<sup>9</sup> Thus, although more pro-environmental stances may have yielded more positive evaluations of Clinton and/or more negative evaluations of Dole, only a few of these attitudes appeared to benefit Clinton in terms of actual votes.



### **3.2. Dynamic Representation and the Environment**

Elected officeholders may adjust public policy in anticipation of the possible electoral consequences of public opinion (Stimson, MacKuen, and Erikson 1995). Even entrenched incumbents might nevertheless feel duty-bound to give some weight to their constituents' opinions (Bartels 1991). Accordingly, Weaver's (2008) cross-national study found that people's willingness to make economic sacrifices for the environment (e.g., by paying higher prices) was often positively associated with measures of environmental governance (e.g., stringency of environmental regulations). Agnone (2007) found that an index of environmental attitudes (consisting mostly of preferences on environmental spending) was positively associated with the number of pro-environmental laws passed by Congress each year. In contrast, however, Olzak and Soule (2009) found that the percentage of the public saying that the environment is the "most important problem" had no significant relation with the number of Congressional hearings on the environment or pro-environmental laws passed each year. Clearly, more of this type of work is merited to illuminate how and when public opinion on the environment directs or limits public policy.<sup>10</sup>

### **3.3. Direct Democracy and the Environment**

Ballot propositions on environmental issues present opportunities for the American public to participate directly in the process of creating environmental policy at the state level. Lake (1983, 222) found that California environmental ballot measures between 1970 and 1980 "met with the same or slightly better rates of approval than their non-environmental counterparts." Guber (2003, Ch. 7) found that, in elections between 1964 and 2000, 62 percent of legislative referenda and 40 percent of citizen-initiated ballot measures were approved – a success rate at least as strong as that of propositions in general (cf. Magleby 1994, 251). Some

scholars have speculated that the success of environmental ballot propositions is a function of the extent of “negative or positive connotations of the wording” (Lutrin and Settle 1975, 371) and the impact of negative advertising that emphasizes their potential economic costs, with success more likely in “simple, inexpensive, and low-key campaigns” (Guber 2001a, 130). In a broader sense, these election outcomes imply that the public is not uniformly “for” or “against” environmental protection. Public attitudes depend on the particular environmental issue in question.

#### **4. Conclusion**

Three decades ago, Van Liere and Dunlap (1980, 193–194) proposed that researchers should avoid “lumping” together measures of public concern about various types of environmental damage, noting that “it is unclear whether persons concerned about one of these issues will be equally concerned about the others.” We endorse this viewpoint and suggest that it should be applied beyond simply measures of concern. We have reviewed an array of evidence which suggests that scholars should treat each measure as independent, with integrity of its own. Certainly, this conclusion is not one that advocates parsimony, but parsimony at the expense of validity hardly seems to be a worthwhile goal.

Of course, single items have drawbacks of their own, and we would prefer to use multiple indicators – *if* they measured the same construct. Admittedly, we have not proposed multiple indicators in this chapter (but see Carman 1998, Guber 1996, and Xiao and Dunlap 2007). Instead, we have suggested a simple framework for studying Americans’ environmental attitudes that can naturally accommodate, for example, evidence suggesting that some environmental items predict presidential vote choice while others do not.

Going forward, we recommend that future survey designers include a wide array of existing measures. Items could be drawn from Table 1, to allow for over-time comparison with prior surveys. But another approach would be to borrow items from “America’s Report Card on the Environment” (ARCE), a battery of questions designed to tap a range of environmental topics and administered by Stanford University and the Associated Press in national surveys in 2006 and 2007 (Krosnick, Bannon, and DeBell 2007). As Table 2 shows, the first questions on the ARCE asked respondents to make current, retrospective, and prospective evaluations of environmental quality. In 2007, 42% of respondents rated the current condition of the world environment as very poor or poor. Fifty three percent of respondents said that, relative to 10 years ago, the environment today is somewhat worse or much worse. And 52% of respondents said that 10 years from now, the world environment will be somewhat worse or much worse. Thus, about half of Americans provided negative evaluations of environmental quality.

A second set of questions (again, see Table 2) asked respondents to evaluate how the President, Congress, and American businesses were handling environmental issues. In 2007, only 20% of respondents approved of President Bush’s handling of the environment. Similarly low percentages approved of handling of the environment by Congress (15%) and American businesses (22%). A third set of questions asked respondents how much they wanted the President, Congress, and American businesses to do to protect the environment. Two thirds of respondents wanted President Bush to do a “great deal” or “a lot” to help the environment in the coming year. Large majorities of respondents also desired a great deal or a lot of action from Congress (71%) and American businesses (72%).

[Table 2 about here]

In light of our review of past surveys’ measures of environmental attitudes and beliefs, it

is obvious that the battery of questions in the ARCE could be expanded to cover more content domains, ideally by following principles of optimal questionnaire design (Krosnick and Presser 2010). Possible additions could include the following:

“How important are environmental issues to you personally? Extremely important, very important, moderately important, slightly important, or not important at all?”

“How important is it that the United States works to protect the environment? Extremely important, very important, moderately important, slightly important, or not important at all?”

“How important is it that other countries around the world work to protect the environment? Extremely important, very important, moderately important, slightly important, or not important at all?”

“Would you like the federal government to spend more money on protecting the environment, spend less money on this, or spend about the amount of money it’s spending now for this purpose?” “A great deal more/less or somewhat more/less?”

“Would you like the federal government/the President/the U.S. Congress to work harder on protecting the environment, work less hard on protecting the environment, or work about as hard as he/she/it is now to protect the environment?” “A great deal harder/less hard or somewhat harder/less hard?”

“Do you personally favor, oppose, or neither favor nor oppose the federal government doing things to protect the environment?” “Do you favor/oppose this a great deal or a moderate amount?”

“How closely do you pay attention to news stories about the environment? Extremely closely, very closely, moderately closely, slightly closely, or not at all?”

Measuring a wide array of environmental beliefs and attitudes allows researchers to explore many important questions that presently remain unanswered. What are the impacts of environmental attitudes on presidential primary elections, congressional elections, state elections, and local elections? Beyond candidate choice, do voters’ environmental attitudes affect their decisions to turn out in the first place? More specifically, what are the ramifications of *different* environmental attitudes held by the public for environmental policymaking? Do the impacts of environmental attitudes on public policy vary depending on how much media attention is paid to

surveys measuring each opinion?

We end with two final recommendations for future research. First, we suggest avoiding the use of batteries that combine disparate items (e.g., across multiple categories in Table 1). The fact that a number of items may all be facially relevant to environmental concern in general should not be enough to warrant their inclusion on the same index. Along these lines, researchers should view factor analysis results cautiously. For example, Mohai (1985) and Mohai and Twight (1987) labeled one of their scales as measuring “intensity” of “environmental concern.” Their measures of this construct included items asking the respondent to indicate the seriousness of various problems (e.g., “water pollution”) and items asking respondents how much they agreed with various “pro-development” statements (e.g., “economic growth is more important than protecting the environment”). We believe it does not make much sense to describe a person who is optimistic about future water quality, yet eager to make economic sacrifices to prevent water pollution, as having a mediocre or middling level of environmental concern. The “failure” of this person to show one type of concern takes nothing away from “successful” exhibition of another type.

Second, taking the multifaceted nature of environmental attitudes seriously requires us to recognize that our ability to generalize individual findings may be limited. We therefore suggest avoiding the interpretation of any single question as broadly indicative of an underlying “generalized environmental concern.” Similarly, we recommend using caution in characterizing subgroups as having uniformly “higher” or “lower” level of concern than other subgroups. Given that environmental problems and policies are inherently multidimensional, we should not be surprised that public opinion on the environment is often expressed in complex and heterogeneous ways. Although the “dimensionality debate” is certainly not over, we believe that

a focus on single items will accelerate progress towards a better understanding of public opinion on the environment and its potential consequences for public policy.

**Table 1.** Sixteen Categories of Survey Items on Environmental Issues

Category	Example Survey Item		
	Question	Response(s)	Percent
1. Evaluations of past environmental quality	Do you think the overall quality of the environment around here is very much better than it was five years ago, somewhat better than it was five years ago, slightly better than it was five years ago, slightly worse, somewhat worse, or very much worse than it was five years ago? (Jul 1994, Cambridge Reports / Research International)	slightly worse, somewhat worse, or very much worse	40%
2. Evaluations of present environmental quality	How would you rate the overall quality of the environment in this country today – as excellent, good, only fair, or poor? (Mar 4-7, 2010, Gallup Organization)	only fair or poor	53
3. Evaluations of future environmental quality	Looking ahead 10 years, do you think the overall quality of the environment in your area will be very much better than it is today, somewhat better, slightly better, slightly worse, somewhat worse, or very much worse than it is today? (Jul 1994, Cambridge Reports / Research International)	slightly worse, somewhat worse, or very much worse	42
4. Perceived seriousness of environmental problems	How serious a threat to the future well-being of the United States do you consider each of the following – extremely serious, very serious, somewhat serious, not very serious, or not a threat at all? How about...the environment, including global warming? (May 24-25, 2010, Gallup Organization)	extremely serious or very serious	51
5. Judgments of national and international importance of environmental protection	How important are the following issues to you personally... Not at all important, slightly important, moderately important, very important or extremely important? How about ... the environment? (Mar 3-8, 2010, Associated Press / GFK)	extremely important or very important	62
6. Desired amount of spending to protect the environment	We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount. Are we spending too much, too little, or about the right amount on... improving and protecting the environment? (Mar 15-Aug 12, 2010, General Social Survey)	too little	56
7. Desired amount of government effort to protect the environment	Do you think the U.S. government is doing too much, too little, or about the right amount in terms of protecting the environment? (Mar 4-7, 2010, Gallup Organization)	too little	46
8. Evaluations of environmentalists and environmentalism	Thinking about the environmental movement, do you think of yourself as -- an active participant in the environmental movement, sympathetic towards the movement, but not active, neutral, or unsympathetic towards the environmental movement? (Mar 4-7, 2010, Gallup Organization)	active or sympathetic	61

9. Evaluations of the handling of environmental issues by specific organizations and political actors	Do you approve or disapprove of the way Barack Obama is handling ... environmental policy? (Mar 19-21, 2010, CNN / Opinion Research Corporation)	approve	55
10. Perceived political party superiority in handling environmental protection	When it comes to...protecting the environment which party do you think would do a better job--the Democratic Party, the Republican Party, or both about the same? If you think that neither would do a good job, please just say so. (Aug 5-9, 2010, NBC / Wall Street Journal)	Republican Party	13
11. Reported impact of environmental considerations on voting behavior	How important will each of the following be to your vote for Congress this year -- will it be extremely important, very important, moderately important, or not that important? ... The environment. (Aug 6-10, 2010, CNN / Opinion Research Corporation)	extremely important or very important	58
12. Emotional reactions to environmental issues	I'm going to read you a list of environmental problems. As I read each one, please tell me if you personally worry about this problem a great deal, a fair amount, only a little, or not at all. How much do you personally worry about ... pollution of rivers, lakes, and reservoirs? (Mar 4-7, 2010, Gallup Organization)	a great deal or a fair amount	78
13. Personal interest in, and attention to, news media coverage of the environment	Now I will read a list of some stories covered by news organizations this past month. As I read each item, tell me if you happened to follow this news story very closely, fairly closely, not too closely, or not at all closely... The celebration of Earth Day. (May 3-7, 1990, Times Mirror)	very closely or fairly closely	68
14. Self-reported activism on environmental issues	Which of these, if any, have you, yourself, done in the past year ... Been active in a group or organization that works to protect the environment. (Mar 4-7, 2010, Gallup Organization)	yes, have done	17
15. Tradeoffs between environmental protection and other policy goals	Which of these two statements is closer to your opinion? We must be prepared to sacrifice environmental quality for economic growth. We must sacrifice economic growth in order to preserve and protect the environment. (Sep 1994, Cambridge Reports / Research International)	we must sacrifice economic growth in order to preserve and protect the environment	53
16. Willingness to pay for environmental protection	How much more per month would you personally be willing to pay for all the goods and services you use as a consumer, if you knew that as a result of your paying higher prices business and industry would be able to operate in a way that did not harm the environment? (Jul 1993, Cambridge Reports / Research International)	over \$50	15

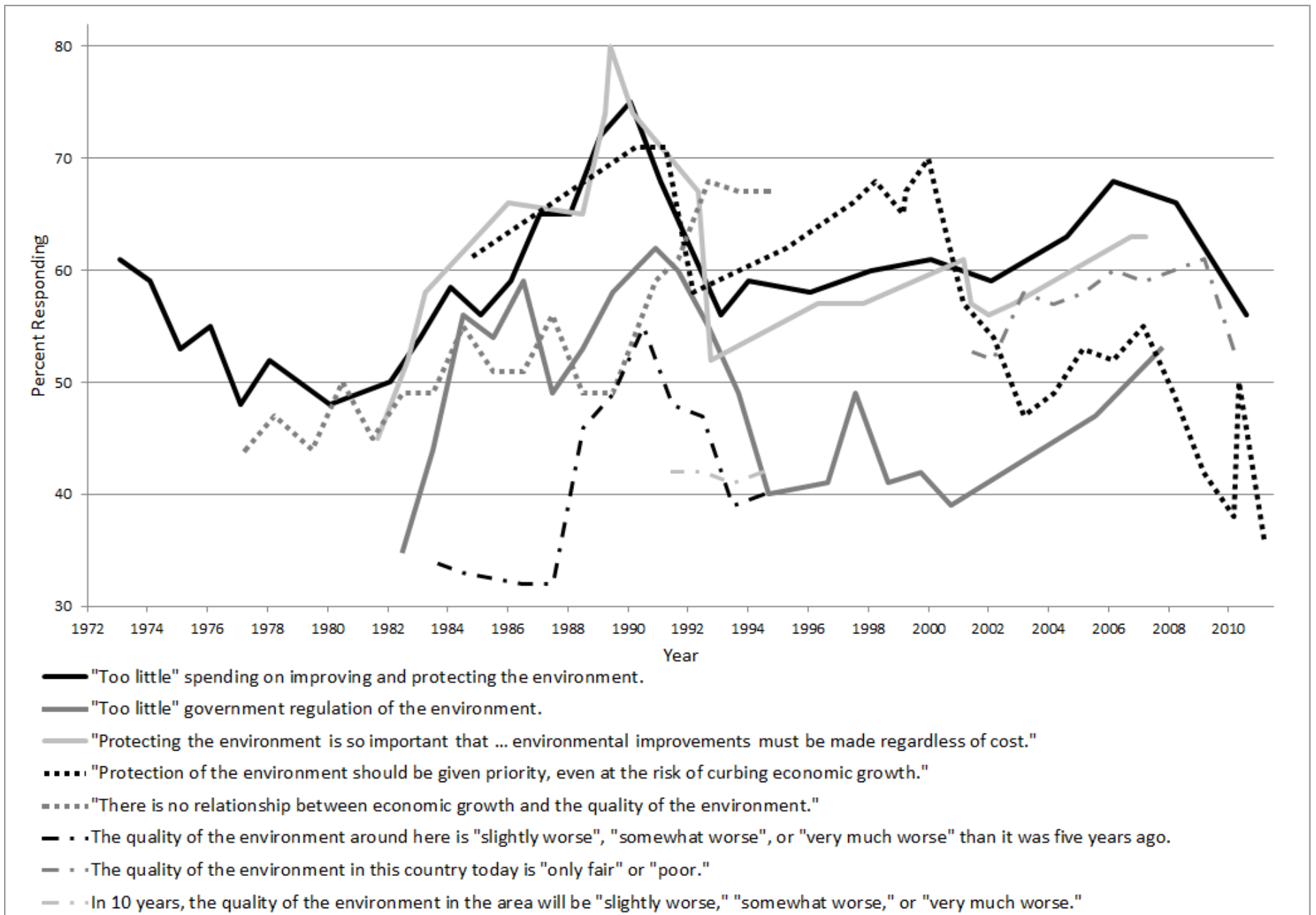


**Table 2.** “America’s Report Card on the Environment”<sup>9</sup>:

Question	Responses Suggesting Environmental Concern	Year	
		2006	2007
1. How would you rate the condition of the natural environment in the world today? [Excellent, good, fair, poor, very poor]	poor or very poor	33%	42%
2. Compared to 10 or so years ago, do you think the natural environment in the world today is... [Much better, somewhat better, about the same, somewhat worse, much worse]	somewhat worse or much worse	60	56
3. Thinking ahead to 10 or so years from now, do you think the natural environment in the world will be... [Much better, somewhat better, about the same, somewhat worse, much worse]	somewhat worse or much worse	55	52
4. Thinking about the way President Bush is handling issues involving the natural environment, do you... [Strongly approve, somewhat approve, neither approve nor disapprove, somewhat disapprove, strongly disapprove]	somewhat disapprove or strongly disapprove	53	53
6. Thinking about the way American businesses are handling issues involving the natural environment, do you... [Strongly approve, somewhat approve, neither approve nor disapprove, somewhat disapprove, strongly disapprove]	somewhat disapprove or strongly disapprove	47	45
7. Thinking about the way the U.S. Congress is handling issues involving the natural environment, do you... [Strongly approve, somewhat approve, neither approve nor disapprove, somewhat disapprove, strongly disapprove]	somewhat disapprove or strongly disapprove	53	50
8. During the past year, how much did President Bush's policies do to help the natural environment? [A great deal, a lot, a moderate amount, a little, nothing]	a little or nothing	66	75
9. During the past year, how much did American businesses do to help the natural environment? [A great deal, a lot, a moderate amount, a little, nothing]	a little or nothing	54	62
10. During the past year, how much did President Bush's policies do to harm the natural environment? [A great deal, a lot, a moderate amount, a little, nothing]	a great deal or a lot	28	29
11. During the past year, how much did American businesses do to harm the natural environment? [A great deal, a lot, a moderate amount, a little, nothing]	a great deal or a lot	29	34

12. During the next year, how much do you want President Bush to do to help the natural environment? [A great deal, a lot, a moderate amount, a little, nothing]	a great deal or a lot	72	67
13. During the next year, how much do you want the U.S. Congress to do to help the natural environment? [A great deal, a lot, a moderate amount, a little, nothing]	a great deal or a lot	76	71
14. During the next year, how much do you want American businesses to do to help the natural environment? [A great deal, a lot, a moderate amount, a little, nothing]	a great deal or a lot	76	72
15. During the next year, how much do you want the American public to do to help the natural environment? [A great deal, a lot, a moderate amount, a little, nothing]	a great deal or a lot	77	75

**Figure 1.** Trends in Environmental Attitudes over Time<sup>10</sup>



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<sup>1</sup> We relied on the iPOLL database of survey questions built and maintained by the Roper Center for Public Opinion Research at the University of Connecticut. Included in the database are question wordings and results of surveys conducted by a wide array of academic and non-academic survey research organizations. We searched for survey questions containing “environment,” “air,” “water,” or “pollution,” during a span of two years (1984 to 1986), which represented roughly the midpoint of the years of data available. Each item located in this search was used to construct search terms for additional searches intended to locate all instances of the item for the entire span of dates included in the Roper Center for Public Opinion Research database.

<sup>2</sup>The full question wording is: “I’m going to read you a list of environmental problems. As I read each one, please tell me if you personally worry about this problem a great deal, a fair amount, only a little, or not at all. First, how much do you personally worry about ... [pollution of rivers, lakes, and reservoirs / air pollution].” (Gallup Organization, various years from 1989 to 2011)

<sup>3</sup> The full question wording is: “We are faced with many problems in this country, none of which can be solved easily or inexpensively. I’m going to name some of these problems, and for each one I’d like you to tell me whether you think we’re spending too much money on it, too little money, or about the right about on... Improving and protecting the environment.” (General Social Survey, various years from 1982 to 2010)

<sup>4</sup>Although the rest of this chapter focuses on survey questions asked of national samples, most work in this section studies subnational samples. Therefore, dissimilar associations of

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environmental measures with social and political variables might stem from differences in populations instead of, or in addition to, differences in measures.

<sup>5</sup>See Table A1 in the online appendix.

<sup>6</sup> Reinforcing the same conclusion, factor analyses of the ten environmental items on the 1996 ANES indicate that they do not appear to measure the same construct. An iterated principal factor analysis with varimax rotation on the unweighted data yielded three distinct factors with eigenvalues greater than 1, plus two additional items that each loaded on their own factors. However, the first three of these factors did not have completely clear and distinct conceptual definitions. Loading on the first factor was support for government effort to protect the environment, to reduce air pollution, and to manage natural resources. Loading on the second factor was support for government effort to clean up lakes and parks, to clean up hazardous waste, and to reduce garbage. Loading on the third factor were support for environmental spending even at the expense of jobs and support for government regulation of business to protect the environment. Support for government spending to protect the environment and for government effort to address global warming did not load on any of the three factors. For this factor structure, a confirmatory factor analysis indicated acceptable fit (CFI = .978, TLI = .965, RMSEA = .055, and SRMR = .024, see Hu and Bentler, 1998), whereas models positing fewer factors did not adequately account for the covariances among the indicators.

<sup>6</sup> Our model specifications differ somewhat from Guber (2001b) and Davis and Wurth (2003), whose independent variables included not only political and demographic variables but also non-environmental issue positions (e.g. defense spending, abortion rights). We omitted this latter

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group of variables, opting to focus on the estimation of a larger number of political and demographic coefficients, including party identification, ideology, education, income, gender, race, ethnicity, and age. Full details are in the online appendix.

<sup>7</sup>See Table A2 in the online appendix.

<sup>8</sup>See Table A3 in the online appendix.

<sup>9</sup> The first survey was conducted by telephone March 9-14, 2006, with a random national sample of 1,002 adults. Sampling and data collection were done by TNS of Horsham, PA. The second survey was conducted by telephone September 21-23, 2007, with a random national sample of 1,001 adults. Sampling and data collection were conducted by Ipsos Public Affairs.

<sup>10</sup> The question wordings for Figure 1 are as follows (in order of presentation in the legend):

“We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount on... Improving and protecting the environment.” (General Social Survey, various years from 1973 to 2010)

“In general, do you think there is too much, too little, or about the right amount of government regulation and involvement in the area of environmental protection?” (Cambridge Reports / Research International, 1982 to 1994; Wirthlin Worldwide, 1996 to 2000; Harris Interactive, 2005 and 2007. Wirthlin Worldwide omitted the phrase “In general” from the question wording)

“Do you agree or disagree with the following statement? Protecting the environment is so important that requirements and standards cannot be too high, and continuing environmental

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improvements must be made regardless of cost.” (CBS News / *New York Times*, various years from 1981 to 2007)

“With which one of these statements about the environment and the economy do you most agree – protection of the environment should be given priority, even at the risk of curbing economic growth, or economic growth should be given priority, even if the environment suffers to some extent?” (Gallup Organization, various years from 1984 to 2011)

“Which of these two statements is closer to your opinion? 1. There is no relationship between economic growth and the quality of the environment – indeed, we can have more and more goods and services and also a clean world. 2. We cannot have both economic growth and a high level of environmental quality, we must sacrifice one or the other.” (Cambridge Reports / Research International, 1977 to 1994)

“Do you think the overall quality of the environment around here is very much better than it was five years ago, somewhat better than it was five years ago, slightly better than it was five years ago, slightly worse, somewhat worse, or very much worse than it was five years ago?” (Cambridge Reports / Research International, 1983 to 1994)

“How would you rate the overall quality of the environment in this country today – as excellent, good, only fair, or poor?” (Gallup Organization, 2001 to 2010)

“Looking ahead 10 years, do you think the overall quality of the environment in your area will be very much better than it is today, somewhat better, slightly better, slightly worse, somewhat worse, or very much worse than it is today?” (Cambridge Reports / Research International, 1991 to 1994)

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<sup>10</sup> Of course, political elites make policy and may also drive public opinion, so that any observed congruence between public opinion and policy may be attributable to the influence of elites rather than to the influence of the public.