

Public Opinion about Energy Development: Nimbyism vs. Environmentalism

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Nimbyism ("Not in My Backyard" responses) and environmentalism are distinct concepts, but they are easily confounded in practice. Do people object to proposed developments because the developments are too close to where they live, or because the people are environmentalists? The news media and political activists often assume that objections to potentially risky developments from people who live near the proposed sites are motivated by nimbyism and self-interested concerns. There have, however, been few studies seeking to discover whether nimbyism or environmentalism is the driving force behind anti-development sentiment and behavior.

Protests against offshore oil drilling in Santa Barbara and other oil-producing, coastal communities from the 1970's through the 2000' s offer us an opportunity to inquire whether anti-oil sentiments and behavior are better explained as nimbyism or environmentalism. The anti-oil protests were often described as Nimby responses, but the protesters may have been motivated by environmental sentiment, rather than selfish desires to have the oil produced somewhere far away from their communities. We seek to discover the truth of the matter.

In this paper, we use survey data collected from two samples of Californians in order to compare nimbyism and environmentalism as causes of attitudes toward oil drilling off the California coast and in Alaska' s Arctic National Wildlife Refuge. The two surveys allow us to measure proximity to oil drilling--the key to nimbyism--at two scales. One survey is a random cross-section of Californians, which allows us to measure proximity to oil drilling by region in the state. That survey also allows us to compare attitudes of Californians toward oil drilling in California and Alaska, and thus gives us a large-scale approach to searching for Nimby effects. The other survey is a random cross-section of Californians with an additional sample of Santa Barbara County residents. This second survey allows us to look at the effects of proximity to oil drilling on a much smaller scale. Most residents of Santa Barbara County can see the oil drilling platforms every day. Together, the two surveys give us a solid basis for distinguishing between nimbyism and environmentalism.

We find that nimbyism has little to do with attitudes toward oil development. Environmentalism clearly influences people' s attitudes toward oil drilling. In contrast, proximity to oil drilling either has no effect, or actually increases support for drilling.

Theoretical Background

Notes

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Nimby responses to development proposals are generally described as extreme opposition to local projects characterized by: (1) distrust of project sponsors; (2) high concern about project risks; (3) limited information about project siting, risks, and benefits; and (4) highly emotional responses to the conflict (5) parochial and localized attitudes toward the problem, which exclude broader implications (Kraft and Clary 1991, 302-03). The first four items in this list raise questions about the reasonableness or rationality of the objections. The last item--localized attitudes--raises the question of selfishness.

Kraft and Clary based their description of the Nimby syndrome on their review of previous studies of nimbyism. However, when they examined opposition to a set of proposed sites for nuclear waste repositories, they found that the conventional description of Nimby responses did not hold up. They found high concern about project risks and distrust of the sponsors, but they did not find low information, localized attitudes, or highly emotional responses (Kraft and Clary 1991, 318). Other researchers have also found evidence suggesting that the only patterns that regularly appear are concerns about health and safety risks and distrust of project sponsors (Hunter and Leyden 1995; Margolis 1996; Smith and Marquez 2000; Wright 1993).

In our investigation, we follow the lead of these studies by examining not just support or opposition to oil drilling, but also perceptions of the risks associated with oil drilling and trust in the scientific claims made by the oil industry and its environmental-group critics.

Environmentalism has been far more thoroughly studied than nimbyism. Environmentalism is characterized by attitudes and behaviors that focus on protecting the natural environment from destruction or pollution. Environmentalism, as opposed to nimbyism, is a more general attitude that supports and prioritizes the natural environment as important to human life. Moreover, environmentalism considers how humans interact and use natural resources in everyday life such as water, air, soil, plants, forests, etc. On the other hand, nimbyism is localized opposition to a specific development that is often opposed in the name of environmental protection. Our expectation is that we will be able to differentiate between nimbyism and environmentalism because environmentalists will be opposed to offshore oil drilling regardless of location, whereas Nimbyists will more likely be opposed to offshore oil drilling that is close to them.

The Conflicts: Oil Development in California and Alaska

The question of whether to permit more offshore oil drilling along the California coast has long been a controversial one. Resistance to offshore oil drilling began in response to the first offshore oil operation just south of Santa Barbara, California in 1896. Ever since--long before the modern environmental movement--the oil industry has met resistance to its efforts to drill along the California coast. Following the 1969 oil spill in the Santa Barbara Channel, the opposition to offshore oil development became stronger and more permanently organized. New groups such as "Get Oil Out" (GOO) formed and existing groups such as the Sierra Club focused more of their efforts on attempts to block oil industry activities along the coast. Massive protests were organized to demand that

politicians and federal regulators end offshore oil drilling. Newspapers were deluged with letters attacking the oil industry. In every possible respect, Santa Barbara and the other coastal, oil-producing communities seemed to be responding with classic Nimby resistance to oil drilling (Molotch and Freudenburg 1996; Sollen 1998).

Whether to drill for oil along the California coast, and especially near Santa Barbara, is more than a local dispute; it is a statewide controversy. The efforts by oil companies to expand their drilling and the attempts by environmentalists to stop them are routinely covered by the news media across the state. Candidates for statewide office declare their positions on offshore oil drilling, often using their opposition to it to demonstrate their environmental credentials. Even presidents have taken prominent stands on offshore oil drilling. President Reagan attempted to expand oil drilling off the California coast, and then backed down. President George H.W. Bush declared a moratorium on further leasing of tracts in federal waters to oil companies, and President Clinton extended the moratorium (Sollen 1998).

Because proximity is the key to Nimby responses, the locations of existing or proposed offshore oil and gas developments in California are important. In broad terms, offshore oil development ranges from about 120 miles north of Los Angeles to 80 miles south of it. Offshore platforms are located from Point Arguello, just north of the City of Santa Barbara, to Oceanside, south of Los Angeles in Orange County. One might also expect to find Nimby responses to the oil industry in San Luis Obispo County, immediately north of Santa Barbara County. Offshore development has been proposed along the coast in that county, and the town of Guadalupe was the site of the largest onshore oil spill in U.S. history (Beamish 2002). In addition, one might expect to find resistance to offshore drilling in the Mendocino County area, 160 miles north of San Francisco. This is a remote, sparsely populated area that was the subject of a good deal of oil industry interest in the late 1980s (Freudenburg and Gramling 1994).

Oil was discovered on the north slope of Alaska in 1886, and the first oil development was established in 1914. Unlike the situation in California, Alaskan oil development did not immediately become controversial. No serious resistance to the oil industry appeared from 1914 through 1968, when the Prudhoe Bay field was discovered. It was only when the Trans-Alaska Pipeline was proposed to bring north slope oil 800 miles south to the port at Valdez that environmentalists began objecting to what the oil industry was doing in Alaska.

Recently, further attention has been brought to oil development in Alaska, as the issue of opening a portion of ANWR to the development of the potentially rich on-shore source of oil has gained momentum. In 1960, The Arctic National Wildlife Range was created based on the discovery of the relatively intact, arctic ecosystem and vast migrating herd of caribou. The Alaska National Interest Lands Conservation Act (ANILCA) of 1980 expanded ANWR to include approximately 19 million acres and renamed it as the Arctic National Wildlife Refuge (Cogwell 2002). While ANILCA designated much of the original Refuge as a wilderness area, it did not extend that protection to the coastal plain, which is currently being considered for development. The coastal plain consists of approximately 1.5 million acres and is the part of the Refuge that

is richest in wildlife and migratory birds (Donn 2003). The debate over energy development in ANWR has been highly polarized for over 20 years, coming to a peak in the 2000 presidential election, when Governor George Bush called for opening ANWR to oil development and Vice President Al Gore insisted that it remain closed.

In the case of drilling for oil in ANWR, of course, nimbyism plays no role in forming the opinions of Californians because ANWR is not in California's backyard. The main influence on Californians' attitudes toward oil drilling in Alaska should be environmentalism. However, in the case of drilling for oil off the coast of California, and especially in Santa Barbara County, where the strength of resistance to nearby drilling has increased over the past several decades, Nimby reactions should be expected.

Data and Measures

The data for this paper come from two public opinion surveys of California adults conducted by telephone. The first was conducted in March 1998 by the Field Institute. It consisted of two parts--a representative cross-section of California adults (n=810) and an additional cross-section of adults living in Santa Barbara County (n=204). Santa Barbara was selected because it was the site of the 1969 Santa Barbara Channel oil spill, which helped launch the modern environmental movement, and because it has remained a center of anti-oil, political activity ever since the spill. If we are going to find evidence of a Nimby response to oil drilling in California, we should find it in Santa Barbara. The two samples are combined for the analysis in this paper, yielding a sample of n=1,014. The second survey was conducted in July and October, 2002 by the U.C. Santa Barbara Social Science Survey Center. The sample was a representative cross-section of 1,475 adult residents of the state. In both samples, respondents were selected by random-digit dialing.²

In the remainder of this section, we discuss our dependent variables. The other questions and coding details used in this analysis are reported in the appendix.

Three sets of questions are critical to this study--questions dealing with support for oil drilling, with the risks associated with oil drilling, and with trust in oil industry and environmentalists. The first set of questions on support for oil drilling are:

"I am going to read some statements about the energy situation. For each please tell me whether you agree strongly, agree somewhat, disagree somewhat, or disagree strongly. ... Oil companies should be allowed to drill more oil and gas wells in state tidelands along the California seacoast." [1998]

² The Field Institute is a nonpartisan, nonprofit public opinion research organization established by the Field Research Corporation (550 Kearny Street, Suite 900, San Francisco, California 94108). The U.C. Santa Barbara Survey Research Center is located at the University of California, Santa Barbara. Neither organization is responsible for the analysis or interpretation of the data appearing here. The 1998 data have been archived at the University of California's UC DATA, located at the U.C. Berkeley campus. The 2002 data will be archived at the UCSB Survey Research Center.

"Suppose a new offshore oil drilling platform were planned to be built off the coast of Santa Barbara County, near the City of Santa Barbara. Would you support or oppose its construction?" [2002]

"Suppose a new offshore oil drilling platform were planned to be built in a remote area off the California coast? Would you support or oppose its construction?" [2002]

"Do you think the federal government should or should not allow oil drilling in the Arctic National Wildlife Refuge in Alaska?" [2002]

The results of the first question, which was asked in 1998, show that oil development was very unpopular at the time. Twenty percent of the statewide respondents favored more oil drilling, while 75% opposed it, and the rest were undecided.³ The results of the next three questions, asked in 2002, reveal that oil drilling off Santa Barbara receives the least support (29%), drilling in ANWR receives somewhat more (34%), and drilling in a remote area off the California coast receives the most support (46%). These results show that nimbyism may play a role because opposition to drilling is greatest for the most populated and developed area, Santa Barbara. This follows from the argument that if environmentalists want to protect unspoiled nature, they should object most strongly to drilling either in ANWR or in a remote area along the California coast. Alternatively, it may be the case that drilling for oil in Santa Barbara and ANWR receive the least support because they have received the most media attention from the environmental movement. At the times of the two surveys, there were no oil industry efforts to drill in remote areas along the coast.

Our three 2002 questions about drilling can be combined into a scale by adding the number of locations in which respondents favor drilling. The Cronbach' alpha for the scale, 0.78, shows a high level of reliability.⁴

The next set of questions asks about possible risks associated with oil drilling--the frequency of oil spills, and whether spills pose risks to people. The first two questions were asked both in 1998 and 2002; the last question on cancer was asked only in 2002.

"How often do you think a typical offshore oil platform is likely to have a major oil spill--every five years, every ten years, every twenty years, every forty years, or is it even less frequent than that?" [1998, 2002]

"When a major oil spill occurs, how much threat does it pose to human life--a great deal, some, only a little, or none at all?" [1998, 2002]

³ These percentages are based on the representative, statewide sample. They exclude the extra Santa Barbara respondents.

⁴ The drilling items also work well as a Guttman scale. The coefficient of reproducibility for the scale is 0.90 (see Torgerson 1958, 318-24).

"Does contact with raw, unrefined petroleum cause a serious risk of getting cancer, a moderate risk of getting cancer, a slight risk of getting cancer or no risk of getting cancer at all?" [2002]

The factual answers to the questions are that major oil spills from platforms are extremely rare (occurring far less than once every forty years on average), that oil spills pose virtually no threat to human life (although they do cause major ecological damage), and that exposure to unrefined petroleum does not cause cancer (Anderson and LaBelle 1994; Burger 1997). Figure 1 shows the results for 2002, which are similar to those for 1998. In every case, respondents exaggerate the risks. Only fifteen percent responded correctly that oil spills occur less often than once every forty years, while forty-five percent thought that they occurred once every five or ten years. Only seven percent responded correctly to the other two questions. Sixty-eight percent of the respondents incorrectly believed that there was a "great deal" or "some" threat to humans from an oil spill, and fifty-two percent incorrectly thought that contact with raw petroleum caused a "serious" or "moderate" risk of getting cancer.

The final set of questions asks about trust in oil industry and environmental group scientists. The 1998 questions asked about confidence in oil industry and environmental group scientists' statements about potential risks. The 2002 questions were part of an experiment designed to look at the influence of both message sources (oil industry vs. environmental group scientists) and message content (oil drilling is either risky or safe). For our purposes, however, the questions offer an opportunity to measure trust. The questions [with the 2002 experimental variations in brackets] are:

"How much confidence do you have in statements made by oil industry scientists about potential health risks associated with living near an oil drilling site? Do you have a great deal of confidence, a moderate amount of confidence, only some confidence, or almost no confidence at all?" [1998]

"How much confidence do you have in statements made by environmental group scientists about potential health risks associated with living near an oil drilling site? Do you have a great deal of confidence, a moderate amount of confidence, only some confidence, or almost no confidence at all?" [1998]

"A team of [oil industry/environmental group] scientists recently reported the results of their research showing that because of new technology, offshore oil drilling is far [safer/riskier] than previously thought. How much confidence do you have in that claim--a great deal, a moderate amount, only some, or almost none at all?" [2002]

The four variations of the question (oil industry-safer, oil-industry-riskier, environmental group-safer, and environmental group-riskier) were each asked of

randomly selected subsamples in the 2002 survey.⁵ Both the 1998 and 2002 questions allow us to look at trust in both sides of the dispute, rather than just at trust in project advocates--which is what most of the Nimby literature does.

Models

We begin our search for nimbyism and environmentalism by examining support for oil drilling. We do so by constructing a set of logistic regression models explaining oil-drilling support as a function of known causes of environmentalism and measures of proximity to oil drilling sites.

An alternative research strategy would be to use measures of environmentalism, rather than measures of its causes, as independent variables in our models. The problem with that approach is that we would be using a set of general environmental attitudes to explain specific environmental attitudes. That might raise questions about causal direction or possibly spurious effects in our results. To avoid those difficulties, we use only variables that are recognized as causes of environmental attitudes.

For independent variables, we begin with three demographic variables that have been shown to cause environmentalism--education, age, and gender.⁶ In general, more educated people, younger people, and women take more pro-environment stands than the less educated, the old, and men (Guber 2003; Jones and Dunlap 1992; Smith 2002). We also add commuting distance for those who drive their cars to work. This is a measure of self-interest. The greater their driving distance, the more respondents may favor new oil drilling to reduce gasoline prices. We also use three variables that measure respondents' political orientations. The first two are well known--party identification and liberal-conservative ideology. Numerous studies show that Democrats and liberals in the general public are more likely than Republicans and conservatives to support environmental causes (Smith 2002). Moreover, many Democratic and Republican leaders have taken clear stands on opposite sides of oil development questions in recent years. Studies of roll call voting in Congress have shown that Democratic politicians lean toward environmental positions, while Republicans lean against them (Kamieniecki 1995). In addition, during the 2000 presidential election, Governor Bush argued in favor of oil development (most prominently in Alaska), while Vice President Gore opposed it (Bruni 2000; Mitchell 2000).

An additional set of independent variables is suggested by scholars who have argued that individualism and egalitarianism are core American values, which explain people's attitudes on a wide range of issues (Feldman 1988; Feldman and Zaller 1992). In related work, Douglas and Wildavsky have claimed that the rise of egalitarianism and,

⁵ The full design of the experiment was actually 3 groups x 2 messages. The third group, which we omit from the discussion here, was "government scientists."

⁶ We also tested family income, race, and ethnicity (White, Black, Latino, other) as potential causes of attitudes on oil development. Other studies have found that these variables have effects on some environmental variables. We did not find any effects in any of our analyses.

to a lesser extent, the decline of individualism, explain the spread of environmentalism in the 1960s and 1970s (Douglas and Wildavsky 1982; Douglas 1992; Wildavsky and Dake 1990). They argue that egalitarians are especially concerned with potential threats from what they see as inequalitarian institutions—big government and large corporations. According to Douglas and Wildavsky, egalitarians use environmental laws and regulations as vehicles to allow them to fight these enemies. Individualists, in contrast, defend large corporations and the profit motive as essential aspects of free markets.

Although individualism and egalitarianism have been treated by previous studies as distinct variables, we have found evidence indicating that they are actually opposite ends of the same underlying dimension (Michaud et al., n.d.). While we do not present data in this paper to support that claim, we nevertheless treat individualism and egalitarianism as a single variable which can be used to explain both attitudes on environmental issues and trust in groups involved in environmental disputes. We do this by constructing a "cultural values" index, which is the sum of all individualism and egalitarianism items coded so that individualist answers are high, and egalitarian answers are low (see the appendix for details). The index ranges from -4 to +5, with a median score of 0. The reliability (Cronbach's alpha) of the index is 0.74.

In order to handle missing data in the political-orientation variables in our models, we have also added three dummy variables. Each dummy variable is scored ' 1' for respondents who did not answer an orientations question, and ' 0' for respondents who did. We then recode each DK (Don't Know) response to the midpoint of the political orientation scale. For example, a respondent who did not answer the party identification questions is scored as a ' 0' for party identification (the midpoint) and as a ' 1' for party identification DK. The coefficient for the DK variable tells us where the group of DK respondents stands on oil drilling. Adding these variables allows us to keep the respondents who did not answer the party identification, ideology, or cultural orientation questions in our sample. Given that we are searching for potentially small Nimby effects, maintaining a large sample is important. In the next version of this paper, we will use the missing data imputation methods developed by King et al (2001).

Finally, we use measures of proximity to offshore oil drilling to tap into nimbyism. The measure we use in the 1998 models is residence in Santa Barbara County--the center of anti-oil political activity in California. This is our small-scale, precise measure of potential nimbyism. Residents of Santa Barbara County live near both offshore oil drilling and the site of the 1969 oil spill. We can compare them to respondents living elsewhere in the state. In the 2002 models, we use a dummy variable indicating whether respondents lived within twenty miles of the coast in a county with offshore oil drilling--San Luis Obispo, Santa Barbara, Ventura, Los Angeles, and Orange counties. This measure is a large-scale measure because it distinguishes people who live in the general area of offshore oil drilling from those who live farther away from oil in California. The 2002 survey also includes the questions about drilling in remote areas of California and Alaska, so we can compare the attitudes of respondents toward oil developments that are fairly close (those in oil-producing areas), toward moderately distant sites (remote areas of California), and toward sites thousands of miles away

(ANWR). We also tested several other possible measures of proximity, but we will discuss them after presenting our findings.

Findings

We can summarize our key results about support for oil drilling quite easily. All of the expected causes of environmental views were statistically significant in one or more of the equations explaining support for drilling. Proximity to oil drilling--our measure of nimbyism--did not increase opposition to oil development in any equation. Living near the coast (the 2002 measure) was not significant in any equation. Living in Santa Barbara had a significant effect, but it was the opposite of the one predicted by the Nimby syndrome. Controlling for the other independent variables, Santa Barbara residents were actually more supportive of oil development than people living elsewhere in the state.

The results of our models explaining support for oil drilling are shown in table 1. In brief, years of education had a significant effect in only one equation, and not in the expected direction. The better educated respondents, the more likely they were to favor drilling for oil off the Santa Barbara coast. Age had significant effects in both the ANWR and Remote California equations in the expected direction. Older respondents were more supportive of oil drilling than younger respondents. Women were less likely than men to support oil drilling in any location in 2002, but the coefficient failed to reach significance in 1998. As expected, the greater the distance respondents commuted to work, the more they supported oil drilling—but only in the Santa Barbara area in 2002 (a year of high gasoline prices). All three of our political orientations variables had significant, expected effects in all three 2002 equations, two of the three had the expected effects in 1998. Republicans, people who identified themselves as conservatives, and people who held individualist cultural values were more likely to favor oil drilling than Democrats, liberals, or egalitarians.

In 2002, people who lived near the coast in a county with oil drilling were neither more nor less likely to favor more oil drilling. The variable was not statistically significant—or even close to significant—in any equation. Nimbyism did not appear. In 1998, however, living in Santa Barbara County did influence attitudes, but not in the direction predicted by the Nimby syndrome. Santa Barbarans were actually *more* likely than people living elsewhere to support oil drilling--controlling for the other independent variables.

So as to be more confident about the finding that proximity to offshore oil development or to the coast does not increase opposition to people' s attitudes on oil development, several different measures of proximity were tested to see whether any measure of proximity would work. We first looked at differences between those living in coastal counties and noncoastal counties. Second, we separated the more rural/suburban oil-producing, coastal counties (San Luis Obispo, Santa Barbara, and Ventura) from the more urban oil-producing counties (Los Angeles and Orange) to see if those two regions differed. Third, using zip codes, we looked at differences between those living within twenty miles of the coast and those living outside that coastal band. No Nimby effects

appeared in any of these data.⁷ The only significant coefficient we found was the one reported in table 1, that people living in Santa Barbara supported drilling more than people living elsewhere. We will discuss the implications of this finding in the next section.

We now turn our attention to perceptions of risks associated with oil drilling. We approach the question in the same way we approached support for oil drilling. We hypothesize that environmentalism and nimbyism cause risk perceptions. The more strongly pro-environment respondents are, and the closer they live to offshore oil drilling, the more likely they are to believe that it is risky.

We begin by examining the relationship between support for oil drilling and perceptions of the risks associated with it. Figure 2 shows our 2002 respondents' beliefs about three risks by their level of support for drilling, as measured by the number of areas in which people support drilling (Santa Barbara, ANWR and remote areas of California). On the left side of figure 2, we see that whereas 67 percent of the respondents who did not favor drilling anywhere believed that oil platforms were likely to have a major spill at least once a decade, only 28 percent of those who favored drilling in all three locations believed that oil spills were that frequent. The group of columns in the middle of the figure shows that as support for drilling increases, the percentage of people who believe that major oil spills pose some or a great deal of threat to human life falls. The columns on the right of the figure show that as support for drilling increases, the percentage of people who believe that contact with unrefined petroleum poses a moderate to serious risk of causing cancer declines. In sum, people who support drilling tend to think it is safe, and people who oppose it tend to think it is risky.

The next question is, to what extent are these perceptions of risk caused by environmentalism and nimbyism. To answer that, we use logistic regression models similar to the models used to analyze support for oil drilling. The only difference between the models is that because the dependent variables have several categories, rather than just two, the models have several intercepts. The intercepts indicate the breakpoints between the dependent variable categories (e.g., a major oil spill once every five years vs. a major spill once every ten years, etc.). The dependent variables are coded so that low values indicate riskiness and high values indicate safety.

The results of analysis, shown in table 2, are similar to the results of the models explaining support for oil drilling. Education has significant effects on beliefs about oil spills threatening human lives, and about whether contact with oil causes cancer. In both cases, the more years of education the respondents had, the more likely they were to get the answers right--that is, risks were low. The belief that oil drilling is safe also increased with age, and men were more likely than women to believe that drilling was safe. Commuting distance, our measure of self-interest, did not have any effect on views about

⁷ We should note that we were not able to test for the effects of living in a remote area on support for drilling (presumably the coast between San Luis Obispo and Monterey, and the north coast above the San Francisco Bay area) because there were not enough respondents in our surveys to examine attitudes in these areas.

the riskiness of oil drilling. Republicans in 2002 were more likely to believe that contact with raw petroleum does not cause cancer, and in 1998 to believe that platform spills were infrequent. Conservatives were more likely than liberals to believe that oil platform spills were uncommon in 2002. And, as the cultural values coefficients indicate, respondents leaning in an individualist direction were more likely to believe that all aspects of oil drilling were safer than were those leaning in an egalitarian direction in 2002, and they were more likely to think that oil spills did not threaten human lives in 1998. Our measure of potential nimbyism, living near the coast in a county with offshore oil production, had no effect on perceptions of risk in 2002. In 1998, however, living in Santa Barbara County made respondents substantially more likely to believe that oil spills posed no threat to human beings. Again, this result is the opposite of the one predicted by the Nimby literature.

Overall, the results of this analysis are that the causes of environmentalism also cause heightened perceptions of oil-drilling risks, but living near drilling sites either does not have any effect (2002) or makes people feel safer (1998). Nimbyism does not appear.

We now turn to the last of our three elements of nimbyism, trust. To do so, we make use of the trust experiment embedded in our 2002 survey, described above, in addition to two questions from our 1998 survey. We use the same set of independent variables with logistic regression models for each equation. Each 2002 question was asked in a randomly selected subset of our sample, so we divide the sample into four parts and analyze each one separately.⁸ Again, we hypothesize that environmentalism and nimbyism cause trust (or distrust) in oil companies and environmental groups. The more strongly pro-environmental respondents are, and the closer they live to offshore oil drilling, the more likely they are to believe environmental groups, and the less likely they are to believe the oil industry.

Our results, shown in table 3, are consistent with our earlier findings. Fewer variables have statistically significant effects in 2002, but this may be due to the fact that the sample sizes are much smaller, ranging from 202 to 221 respondents.

We begin by focusing on the 2002 data in the four equations on the left of table 3. Although we are primarily interested in our respondents' trust in oil industry and environmental group scientists, the content of the message clearly has an effect, and we cannot describe the results without discussing it. Going down our list of independent variables, we see that the first significant variable is gender. Women are more likely to believe oil industry scientists when they say that oil drilling is riskier than previously believed, and less likely to believe environmentalists when they say it is safer. Republicans are more likely to believe environmental scientists when they say drilling is safer, and less likely to believe them when they say drilling is riskier. Democrats, of

⁸ An alternative methodological approach would have been to combine the four subsamples and estimate a single equation using a set of independent variables with dummy variables to identify the different questions asked and interaction terms to allow the independent variables to have different effects depending on the version of the question asked. This would have resulted in an equation with 44 independent variables. We chose our approach because it is simpler to understand, and yields essentially the same results.

course, are the opposite. Respondents who label themselves as conservative are more likely than those who label themselves as liberal to believe oil industry scientists. Finally, the cultural values coefficients indicate that individualists are likely to believe oil industry scientists saying that drilling is safer, and not to believe either oil industry or environmental group scientists who say that drilling is riskier. In all of these instances, the content of the messages seems to be governing whether they are believed. Groups leaning in a pro-environment direction are more likely to trust messages saying that oil drilling is risky, while groups leaning in a pro-development direction are more likely to trust messages saying that oil drilling is risky.

Nimbyism, however, does not seem to play any role in explaining our respondents' attitudes in 2002. No measure of proximity to the coast or oil drilling sites that we tested produced a statistically significant result.

In the 1998 questions, on the right-hand side of table 3, the content of the message was not specified. The questions merely asked about trust in oil industry and environmental group scientists, so respondents reacted only to the sources of the messages. Again, the results fit with our expectations. Women trust environmentalists. Republicans are more likely to trust oil industry scientists and distrust environmental group scientists than are Democrats. Ideology and cultural values follow a similar pattern.

Again, residents of Santa Barbara County not only failed to act in the predicted Nimby, anti-oil fashion, they were significantly more likely to trust oil-industry scientists than were people living outside of the county. Nimbyism did not appear.

Concluding Comments

The fact that people's environmental values influence their attitudes toward oil drilling should come as no surprise. The fact that living near the coast or near oil drilling sites does not cause people to oppose oil drilling in their areas, to be concerned about the risks, or to distrust the oil industry--that is, to respond with nimbyism--might surprise some readers. Yet that is what our data show.

We certainly see many aspects of what would appear to be Nimby reactions against offshore oil drilling among communities along the oil-producing region of the California coast. These communities have been the sites of massive protests, of anti-oil rhetoric by politicians, of anti-oil letters to the editor in local newspapers, and of anti-oil, grassroots, political organizations (Molotch and Freudenburg 1996; Sollen 1998). Yet proximity to oil drilling does not seem to change opinion, risk perceptions, or trust in the two sides in the dispute--except that residents of Santa Barbara County lean in favor of oil development and the oil industry.

What happened to the Nimby syndrome? One possibility that might occur to readers is that the oil industry employees in Santa Barbara County balanced out the environmentalists. That is not the case. Economic reports show that "mining," which includes the oil and gas industry and several other types of unrelated mining operations,

accounted for only 800 jobs, or about 0.4% of employment, in Santa Barbara County in 2002. In a county with a population of 480,000 people, the oil industry employs a miniscule number of people (Watkins 2003, 56, 74).

Another possibility is that Nimby responses may be geographically smaller than most observers believe. That is, people' s opinions might change if a drilling facility were, say, a hundred yards away, but not if it were a few miles away. The term Nimby-- "not in my backyard"--may be more accurate than we suspect. In order to test this speculation, we would need to have a survey with a large number of respondents living close to a proposed drilling site or other controversial development.

That explanation may be correct, but it does not fully explain the appearance of large-scale protests and other community-wide resistance to oil development. If objectionable developments such as oil drilling facilities only influence opinion among people living in the immediate neighborhood of the facility, why does political activity spread all over a region? Why are there large-scale protests, anti-oil groups, and other signs of Nimby behavior?

The answer may be that nimbyism has not been accurately characterized. Perhaps nimbyism causes changes in political activism, not in public opinion. That is, having an objectionable facility in one' s community may cause residents who were already inclined to object to such facilities to become politically active. The outward evidence of nimbyism, after all, is political activism. People talk about nimbyism when they see protests, activists testifying at government hearings, letters to the editor, and other forms of political participation. There is almost never any observable evidence that people changed their minds about issues, or changed their perceptions about risks or the trustworthiness of anyone. In the case of anti-oil protesters, for example, they may well have been environmentalists who opposed offshore oil development for years, but only became active when an oil company proposed looking for oil along their coast.

Our surveys do not include any questions about political activism, so we cannot test our speculations about nimbyism and political activism. Yet we suspect that the Nimby syndrome is really a pattern of political activism, not a pattern of public opinion.

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Appendix. Variable Coding

Age: Coded in decades (e.g., 26 year olds are coded 2.6)

Commute: Distance to work for those who drive - (1) 1-5 miles; (2) 6-10 miles; (3) 11-15 miles; (4) 16-20 miles; (5) 21-25 miles; (6) 26 miles or more

Education: (1) Less than high school; (2) High school graduate or trade school; (3) Some college; (4) College graduate; (5) Post-graduate education

Ideology: (-2) Strong liberal; (-1) Weak liberal; (0) Moderate; (1) Weak conservative; (2) Strong conservative

Party identification: (-3) Strong Democrat; (-2) Weak Democrat; (-1) Democratic-leaning independent; (0) Independent; (1) Republican-leaning independent; (2) Weak Republican; (3) Strong Republican

Cultural Values Index: The index is built from the six questions. Respondents were asked to agree strongly, agree slightly, disagree slightly or disagree strongly with each statement below. Scores were assigned to each answer, and the answers were summed into a simple additive scale. For the individualism questions the scores ranged from 4= strongly agree to 1 = strongly disagree; for the egalitarianism questions, the scores were reversed.

Individualism Questions

1. Competitive markets are almost always the best way to supply people with the things they need. [agree]
2. Society would be better off if there were much less government regulation of business. [agree]
3. People who are successful in business have a right to enjoy their wealth as they see fit. [agree]

Egalitarianism Questions

4. The world would be a more peaceful place if its wealth were divided more equally among nations. [disagree]
5. We need to dramatically reduce inequalities between the rich and the poor, whites and people of color, and men and women. [disagree]
6. What our country needs is a fairness revolution to make the distribution of goods more equal. [disagree]

Table 1: Logistic Regression Models of Support for Oil Drilling

Variable	Santa Barbara	Alaska's ANWR	Remote Calif	1998 Calif
Intercept	-	-	-	.16 (.26)
Intercept	-	-	-	-.99 (.26)
Intercept	-1.19 (.34)	-1.91 (.38)	-.22 (.29)	-2.34 (.27)
Education	.09 (.03)	.04 (.07)	-.06 (.06)	-.09 (.06)
Age (decades)	.08 (.05)	.28 (.05)	.10 (.04)	-.03 (.04)
Women	-.62 (.15)	-.76 (.15)	-.31 (.14)	-.21 (.13)
Commute Distance	.09 (.04)	.03 (.04)	.04 (.04)	-.04 (.03)
Party ID (Republican High)	.16 (.04)	.24 (.04)	.17 (.04)	.07* (.04)
Party ID DK	.21 (.24)	-.87 (.30)	-.95 (.26)	-.04 (.36)
Ideology (Conservative High)	.21 (.06)	.28 (.05)	.18 (.05)	.14 (.05)
Ideology DK	.21 (.24)	-.07 (.24)	.04 (.20)	-.39 (.43)
Cultural Values Scale	.13 (.02)	.13 (.02)	.11 (.02)	.08 (.02)
Cultural Values DK	.09 (.19)	.14 (.18)	-.01 (.16)	.04 (.17)
Live in Oil County near Coast	-.18 (.18)	-.03 (.18)	.03 (.16)	-
Live in Santa Barbara County	-	-	-	.39 (.15)
N	1168	1212	1190	945

Predicted v. Observed Tau-a .23 .30 .25 .16

Coefficients significant at $p < .05$ are in bold font

Table 2: Logistic Regression Models of Risk Perceptions

Variable	2002 Platform Spill Frequency	2002 Oil Spill Threat	2002 Oil Cancer Risk	1998 Platform Spill Frequency	1998 Oil Spill Threat
Intercept 1	.59 (.26)	-.48 (.24)	.23 (.27)	-1.80 (.25)	4.33 (.28)
Intercept 2	-.66 (.26)	-2.25 (.25)	-1.72 (.27)	-1.25 (.25)	2.30 (.25)
Intercept 3	-1.56 (.26)	-4.19 (.28)	-3.48 (.29)	-.36 (.25)	.53 (.24)
Intercept 4	-	-	-	.95 (.25)	-
Education	.00 (.05)	.24 (.05)	.13 (.05)	-.08 (.05)	.31 (.05)
Age (decades)	.12 (.04)	.20 (.03)	.20 (.04)	.12 (.04)	.13 (.04)
Women	-.31 (.12)	-.80 (.11)	-.57 (.12)	-.51 (.13)	-.53 (.12)
Commute Distance	.04 (.03)	.02 (.03)	.01 (.03)	.03 (.03)	.01 (.03)
Party ID (Republican High)	.03 (.03)	.06 (.03)	.09 (.04)	.10 (.04)	.02 (.04)
Party ID DK	-.18 (.21)	-.17 (.20)	-.42 (.23)	.48 (.36)	-1.36 (.37)
Ideology (Conservative High)	.09 (.04)	.01 (.04)	-.04 (.05)	.04 (.04)	.04 (.04)
Ideology DK	-.17 (.18)	-.41 (.18)	-.13 (.09)	-.22 (.40)	.02 (.39)
Cultural Values Scale	.03 (.01)	.09 (.01)	.07 (.01)	.00 (.02)	.12 (.02)
Cultural Values DK	-.14 (.15)	-.15 (.13)	-.24 (.15)	.08 (.17)	.15 (.15)
Live in Oil County near Coast	.11 (.13)	-.01 (.13)	.08 (.14)	-	-
Live in Santa Barbara County	-	-	-	.22 (.15)	.41 (.15)
N	1044	1285	1001	849	975

Predicted v. Observed Tau-a .16 .25 .21 .17

Coefficients significant at $p < .05$ are in bold font

Table 3: Logistic Regression Models of Trust in Oil Industry and Environmental Group Scientists

Variable	2002 Oil Industry Safer	2002 Oil Industry Riskier	2002 Environ Group Safer	2002 Environ Group Riskier	1998 Oil Industry	1998 Environ Group
Intercept 1	1.38 (.61)	1.16 (.62)	1.30 (.57)	1.58 (.67)	.02 (.24)	1.61 (.24)
Intercept 2	.20 (.61)	-.49 (.61)	-.24 (.56)	.26 (.65)	-1.52 (.52)	.18 (.24)
Intercept 3	-1.75 (.62)	-2.25 (.63)	-2.16 (.59)	-1.75 (.67)	-3.24 (.28)	-1.64 (.24)
Education	-.13 (.11)	.08 (.12)	-.01 (.12)	.07 (.13)	.02 (.05)	.09 (.05)
Age (decades)	.04 (.08)	.01 (.08)	.10 (.08)	-.06 (.09)	.01 (.04)	-.06 (.04)
Women	-.37 (.27)	.64 (.27)	-.55 (.27)	.03 (.29)	.07 (.12)	.30 (.12)
Commute Distance	-.04 (.07)	.09 (.07)	.07 (.07)	.08 (.08)	.03 (.03)	.02 (.03)
Party ID (Republican High)	.09 (.08)	-.05 (.08)	.22 (.08)	-.23 (.08)	.08 (.04)	-.11 (.04)
Party ID DK	-.17 (.52)	.48 (.46)	-1.03 (.48)	1.27* (.65)	.12 (.33)	-.15 (.32)
Ideology (Conservative High)	.26 (.10)	-.06 (.10)	.16 (.09)	-.13 (.09)	.12 (.04)	-.15 (.04)
Ideology DK	-.76 (.44)	-.01 (.47)	.28 (.46)	-.22 (.45)	.09 (.39)	.64* (.37)
Cultural Values Scale	.08 (.03)	-.08 (.03)	.05 (.03)	-.12 (.04)	.04 (.02)	-.13 (.02)
Cultural Values DK	-.01 (.32)	.39 (.36)	-.52 (.34)	.03 (.31)	-.25 (.16)	-.26 (.15)
Live in Oil County near Coast	-.10 (.31)	.19 (.30)	.17 (.32)	.18 (.33)	-	
Live in Santa Barbara County					.56 (.15)	-.09 (.14)
N	221	202	208	202	964	973
-2 x Log Likelihood						
Predicted v. Observed Tau-a	.28	.19	.30	.36	.15	.26

Coefficients significant at p < .05 are in bold font

Figure 1. Perceived Risks Associated with Oil Drilling

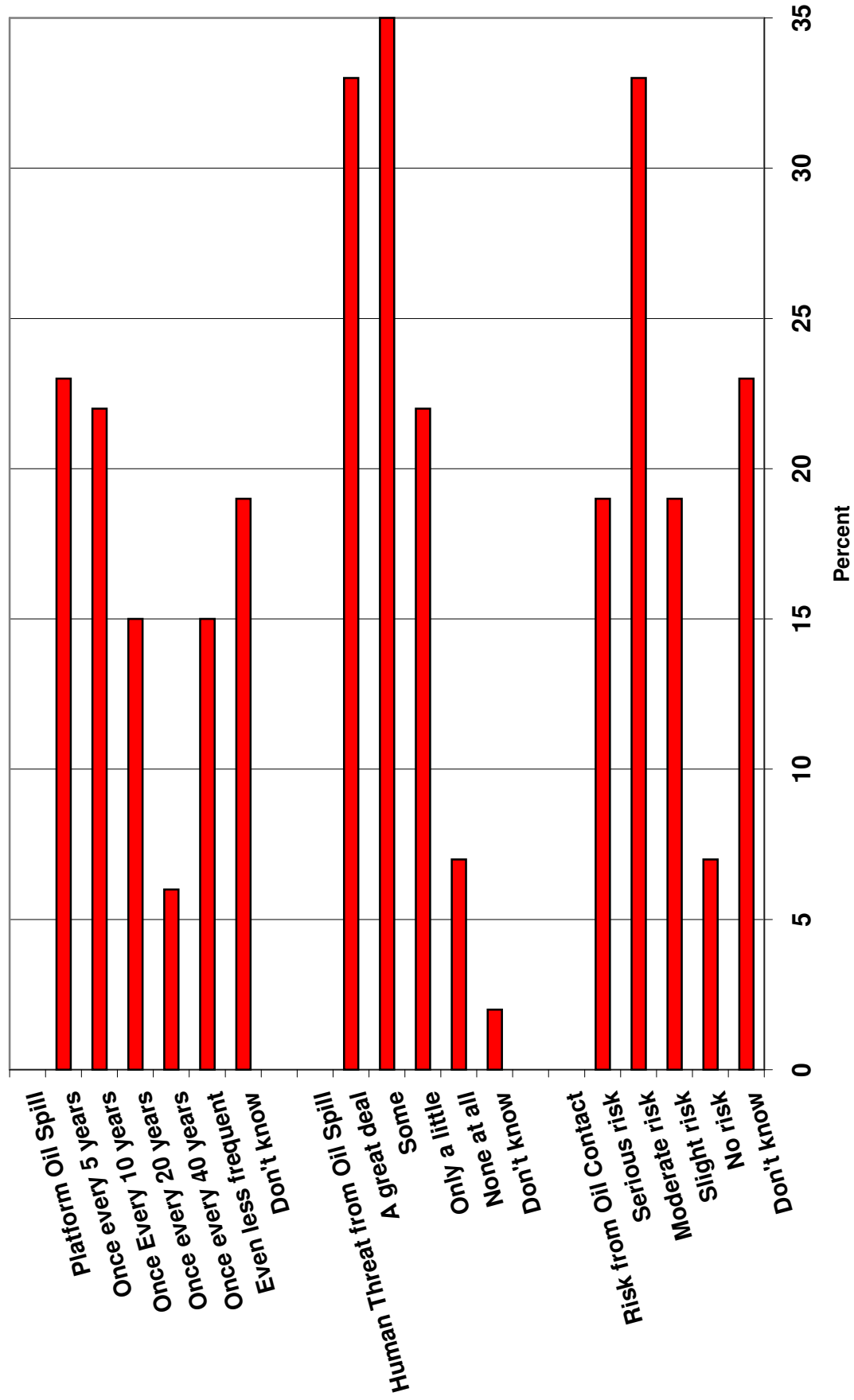


Figure 2. Perception of Risk by Level of Oil Drilling Support

