

Joining Up: Patterns of Political Mobilization in Environmental Groups

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Patterns of political mobilization are of great interest because they help to predict electoral outcomes, legislative voting, and the outcomes of policy referenda. Moreover, mobilization specifically for collective action poses a puzzle, since it is often costly to the individual. Membership in interest groups offers one measure of political mobilization but is notoriously difficult to measure, especially across space. This paper explores a new measure of mobilization for collective action, in this case environmental action, derived from membership in environmental groups. It reports membership levels at the zip code and state level, verifying that environmental membership levels covary with other measures of environmentalism. In addition, it compares states according to the variability of membership to assess homogeneity of environmental concern and shows where environmental mobilization is changing more quickly.

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Understanding patterns of political mobilization is important, particularly in a democracy, since those who are mobilized are thought to have an influence on the policy process. In particular, patterns of political mobilization help to predict electoral outcomes, legislative voting, and the outcomes of policy referenda. Participation in interest groups is one such form of mobilization aimed directly at influencing the political process.

Yet membership in interest groups seeking political influence is costly, often in terms of both time and money. Moreover, it exhibits all the facets of a collective action problem. Why contribute to a group when your neighbor might join instead and bear the costs? This is particularly true in the area of the environment where the problems that environmental groups seek to solve are mostly problems of collective action. Joining an environmental group is costly, yet the political benefits are mostly collective benefits. Environmental groups seek to influence the legislative process on such issues as public lands protection and pollution prevention where the benefits of legislative action are spread among a wide group of citizens. Yet environmental groups have been successful at mobilizing citizens, with at least five in the United States boasting membership of more than half a million.

This paper explores patterns of mobilization for collective action using membership in environmental groups. This exploration offers an understanding of the geographic distribution and variability of membership. It helps to establish that environmental group membership is not just a measure of interest group activity but a measure of underlying environmentalism. Once the distribution of membership and its attributes as a measure of environmentalism are understood, it can be used to predict political outcomes, such as voting behavior and local policy. After

investigating its geographic distribution, particularly at the disaggregated level that this paper uses, membership in environmental groups becomes a phenomenon to be explained. Future work will undertake to find socioeconomic correlates of membership (and therefore underlying environmentalism).

This paper takes the first steps toward understanding environmentalism by using unique data on environmental group membership. First, it investigates mobilization at the zip code level, a very disaggregated level that has heretofore been unavailable. Then it considers mobilization at the state level, comparing it to accepted knowledge of state attributes. This helps to establish environmental group membership as a measure of environmentalism. It also considers the variability in membership, an oft-overlooked attribute of membership that offers insight into state level heterogeneity. Finally, it considers over time changes in environmental group membership at the zip code and state level.

I. Interest Group Membership

Broadly, political mobilization is of interest because interest groups play a key political role in determining electoral and policy outcomes (Baumgartner and Leech 1998). Interest groups strategically lobby Congress (e.g., Austen-Smith and Wright 1994, Wright 1996), by providing information (Hansen 1991) and by offering campaign contributions. They also undertake a variety of actions outside of direct interaction with Congress, from contacting the media to mobilizing public opinion (Dalton, Recchia, and Rohrschneider 2003), in order to influence political and policy outcomes. And they seem to succeed in influencing political outcomes in a broad array of areas. Among others, citizen groups influence the policy that comes

out of referenda (Gerber 1999). And local campaigns affect local environmental policy (Rootes 2007).

This paper uses environmental group membership as an area of focus within interest group activity. According to the World Values Survey (2000), 16% of U.S. respondents said that they belonged to an environmental organization. The environment is an effective place to study political mobilization for several reasons. First, there are pressing problems, among them climate change, that require mobilization of public opinion and action at local levels, as well as the federal level. Second, the area of the environment is a classic example of a collective action problem where the question of who chooses to join environmental groups is an intriguing one. It contributes to our understanding of why people participate in political activity (Verba, Scholozman, and Brady 1995) and why political participation becomes sustained activity in the form of a political movement (Tarrow 1994).

This paper focuses not on why people join environmental groups, although that is an obvious next step, but on the spatial patterns of membership. From a scholarly perspective, reliable measures of environmental group membership can be used to predict other outcomes of interest such as congressional voting and other policymaking. On the political side, members of Congress with more members of environmental groups in their districts vote more often for environmental legislation (Anderson 2011). On the consumer side, environmentally minded communities purchase more environmentally friendly products, like hybrid vehicles (Kahn 2007).

II. Spatial patterns of environmental group membership

While U.S. environmental organizations have historically relied on centralized national organization (Bosso 2005), they go to great lengths to engage members throughout the U.S. The federal system of government in the U.S. offers incentives for interest groups to strive for broad geographic membership. Interest groups work hard to mobilize members. For example, Han (2009) examines the methods groups use to mobilize their members, and particularly underprivileged members. Environmental groups have local chapters that famously offer such incentives as group hiking trips to their members.

Given their usefulness in predicting local policy choice, voting behavior, and even consumer behavior, it is unfortunate that disaggregated patterns of environmentalism are very difficult to access. Some prior work has used country level (Wikle 1995), state level (Mazur and Welch 1999), or cross-national (Dalton 2004, Rootes 1999) membership in environmental groups, but here we take advantage lower levels of aggregation. Studies at higher levels of aggregation within the U.S. have found higher levels of environmentalism in the Northeast and on the West Coast (Mazur and Welch 1999, Wikle 1995, Hall and Kerr 1991). The lower levels of disaggregation offer greater insight into geographic patterns. Here they particularly offer the opportunity to investigate heterogeneity in environmentalism within the states. In future work, the lower levels of aggregation will also allow the determination of covariates of environmentalism within the U.S.

To investigate patterns of mobilization for collective action, this paper uses membership from three different environmental organizations. It uses 1996 data from the Natural Resources Defense Council (www.nrdc.org), the National Wildlife Federation (www.nwf.org), and The Nature Conservancy (www.nature.org). These groups are among the top ten U.S. environmental

groups by membership (Bosso and Guber 2013). In 1996, NRDC had approximately 345,533 members; NWF had approximately 583,423 members; and TNC had approximately 1,012,783 members. The Natural Resources Defense Council (NRDC) states “Our dedicated staff work with businesses, elected leaders, and community groups on the biggest issues we face today. Our priorities include: Curbing Global Warming and Creating the Clean Energy Future; Reviving the World's Oceans; Defending Endangered Wildlife and Wild Places; Protecting Our Health by Preventing Pollution; Ensuring Safe and Sufficient Water; and Fostering Sustainable Communities.” The National Wildlife Federation (NWF) focuses more directly on wildlife, saying “The National Wildlife Federation is a voice for wildlife, dedicated to protecting wildlife and habitat and inspiring the future generation of conservationists.” The Nature Conservancy (TNC) focuses more on land conservation, saying “The Nature Conservancy is the leading conservation organization working around the world to protect ecologically important lands and waters for nature and people.”

The membership data were obtained directly from the organizations, but the groups have proven quite reluctant to share disaggregated data. In addition to the groups that provided data, I requested membership data from the Environmental Defense Fund, Friends of the Earth, Greenpeace, the National Audubon Society, and the World Wildlife Fund. None of them were willing to provide it. The Sierra Club provided data at the congressional district level that is not analyzed here. Similarly, when contacted for updated data, only the Natural Resources Defense Council (NRDC) shared 2006 data. This 2006 data is used to evaluate geographic trends in membership.

Zip code data is used for two reasons. First environmental groups can easily provide it, since they maintain mailing lists of their members that include zip codes. This data can then be

aggregated to the state level as necessary.¹ Second, it is relatively disaggregated. The average zip code had a population of 8822 people in 2000. Thus it offers a detailed look at geographic patterns of membership.

Other scholars have used membership measured by surveys (e.g., Dalton 2005), but surveys have two disadvantages. First, they trade off accuracy in understanding individual attitudes with the ability to generalize across spatial patterns of environmentalism. Individual attitudes toward the environment, or environmentalism, can be measured using scales such as the New Ecological Paradigm (e.g. Kotchen and Moore 2007, Clarke, Kotchen and Moore 2003). These offer detailed insight into environmental attitudes but rarely offer enough respondents in smaller geographies to allow an understanding of spatial patterns of mobilization. Second, surveys that ask about environmental group membership can overestimate it, since they can elicit cheap talk. It is easy to say you belong to environmental groups, but membership in environmental groups is costly. To belong requires payment of at least a nominal membership fee. More broadly, self-reported environmentalism may overestimate environmentalism, since it is easy to say you care about the environment, but more difficult to act on that. Thus, actual membership numbers offer a better representation of environmentalism than self-reported environmentalism or environmental group membership from surveys.

The costly nature of membership (and environmental action more broadly) highlights the puzzle regarding mobilization for collective action: it is costly to the individual but provides mostly collective benefits. Environmental group membership is a perfect example of this kind of political behavior, since it generates mostly collective benefits but literally requires payment of a membership fee. Thus, studying membership in environmental groups offers an opportunity to

¹ Using GIS, they can also be aggregated to other levels, including congressional districts (Anderson 2011).

understand where mobilization for collective action on the environment has been successful and where it has not.

The other measure that scholars have used to measure environmentalism is Green Party vote (Kahn 2007). One problem with Green Party vote is that it is also a function of the organization of the Green Party in a given locality, which is, in turn, a function of electoral incentives. Given the incentives of the electoral system of the United States, the Green Party may not have equal incentive to organize members in some areas as it does in others. For example, during the 2000 presidential election, the Green Party received 2.7% of the popular vote, a watershed year for the Party. But 4 of the 10 states with the highest Green Party vote were small states with three electors where receiving enough votes to gain an electoral vote requires a smaller number of votes. Given the winner-take-all systems of allocating electors in most states, the Green Party has an incentive to concentrate its efforts. On the other hand, membership-based organizations have less incentive to concentrate efforts, since the marginal value of an additional member is more similar across space. Later this paper compares environmental group membership to Green Party vote in the states.

III. The Spatial Distribution of Environmental Group Membership

By Zip Code

Using three groups offers confidence that membership reflects underlying environmentalism rather than, say, interest in participating in group hiking trips. A potential problem with using membership in any given group as a measure of mobilization for environmental collective action is that it could reflect particularities of the recruitment strategies of the group. However, membership in these three groups is very highly correlated. Table 1

shows the correlations. These correlations of above 0.86 provide confidence that the patterns of mobilization are not just a function of the peculiarities of their mobilization strategies. Similarly, using principle components factor analysis, one factor accounts for 86% of the variance in membership across the three organizations. Using a method like principal components analysis to combine the scores is necessary because we cannot simply add up the membership in the different organizations, as this would potentially double count some members. These similarities between group membership give confidence that membership in environmental groups captures underlying environmentalism rather than recruitment strategies or something specific to the group's activities or interests.

Table 1: Correlations between Membership in Environmental Groups, 1996

| | NRDC | NWF |
|-----|-------|-------|
| NWF | 0.864 | |
| TNC | 0.916 | 0.890 |

Table 2 summarizes the membership of each group by zip code, both in absolute numbers and as a percentage of the population in the zip code.² Membership in the groups averages between 0.2% (NRDC) and 0.4% (TNC) of the residents of the zip codes. That is, in the average zip code, five out of every 1000 people belong to TNC. This amounts to an average of 27 people per zip code. Membership ranges from zero to a high of 1387 people in a zip code, not surprisingly in New York City. It is notable that the mean is always substantially greater than the median. This reflects the skewed distribution of membership. There are many districts with zero members, but there are also a few districts with a very high number of members.

² A few zip codes have more members than residents. These are business zip codes with very few residents. Thus, all statistics relating to the percent of residents in a zip code who belong to an environmental group exclude zip codes where there are more members than residents.

Table 2: Summary Statistics of Environmental Group Membership by Zip Code

| | Min. | Median | Mean | Max. | Standard Deviation |
|--------------------------|-------------|---------------|-------------|-------------|-------------------------------|
| NRDC | 0 | 2 | 10 | 672 | 24 |
| NWF | 0 | 3 | 15 | 588 | 24 |
| TNC | 0 | 4 | 27 | 1387 | 62 |
| NRDC 2006 | 0 | 3 | 17 | 1243 | 42 |
| NRDC (proportion) | 0.0% | 0.1% | 0.2% | 50% | 1.02 |
| NWF (proportion) | 0.0% | 0.2% | 0.2% | 755% | 0.78 |
| TNC (proportion) | 0.0% | 0.2% | 0.4% | 93.9% | 1.75 |

By State

It is perhaps more useful for data visualization and to check the membership measures of environmentalism against received wisdom to consider state level data. Like zip code data, membership in the three groups at the state level is highly correlated. Where aggregation reduces some of the variability, membership in the three groups is always correlated at greater than 0.95 and one factor accounts for 96 percent of the variation. This remarkably high correlation gives confidence that membership in environmental groups taps an underlying propensity to participate in collective action on the environment rather than peculiarities of individual groups.

Table 3 shows the ranking of the states by membership level. To visualize the levels of membership, Figure 1 shows the levels of the factor combining the state memberships. Vermont, Oregon, and Maryland have the highest levels of membership, with Missouri, Kentucky, Alabama, and Texas at the bottom. Perhaps the one of the most surprising finding is that California only has middling levels of membership (ranked 22nd and lower than Mississippi and Louisiana)

Table 3: Rank of Membership and Standard Deviation (NRDC membership) by State

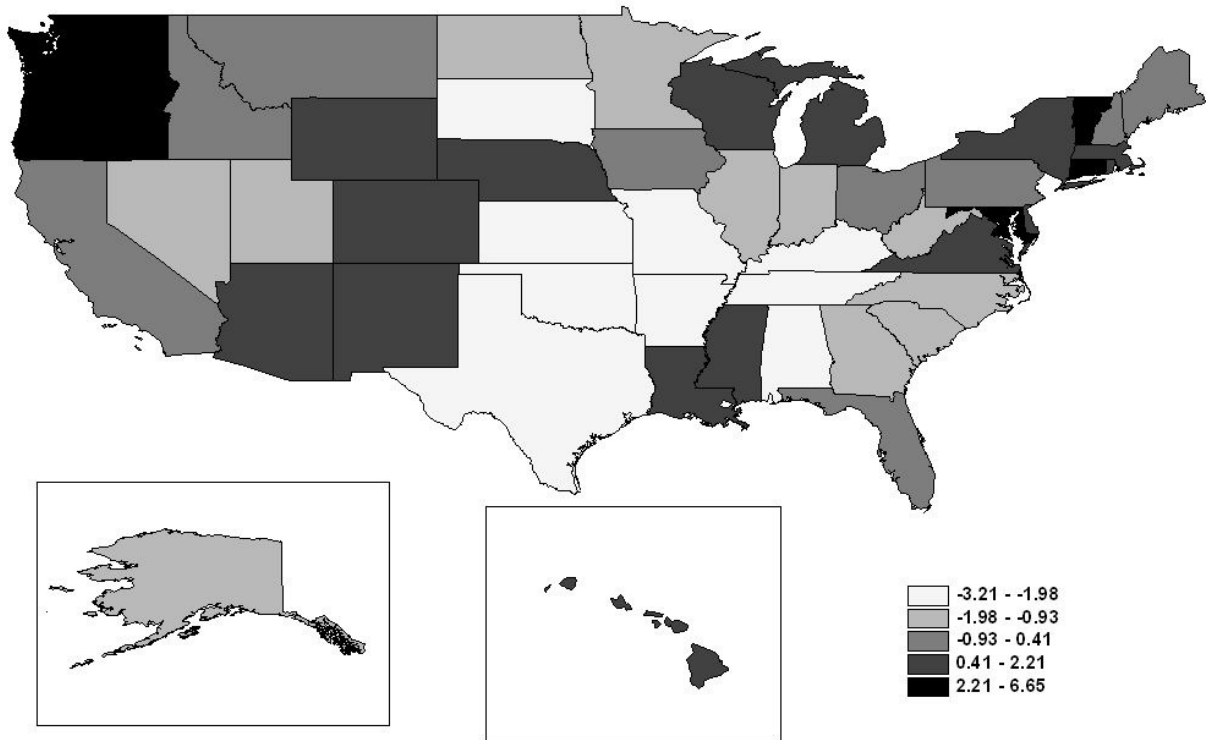
| State | Rank | Standard Deviation | | | |
|---------------|-------------|---------------------------|----------------|----|--------|
| Vermont | 1 | 0.0061 | Florida | 25 | 0.0025 |
| Oregon | 2 | 0.0096 | Idaho | 26 | 0.0127 |
| Maryland | 3 | 0.0090 | Maine | 27 | 0.0054 |
| Delaware | 4 | 0.0113 | Montana | 28 | 0.0051 |
| Connecticut | 5 | 0.0069 | Ohio | 29 | 0.0014 |
| Washington | 6 | 0.0053 | Utah | 30 | 0.0026 |
| Nebraska | 7 | 0.0084 | New Jersey | 31 | 0.0044 |
| Colorado | 8 | 0.0086 | Indiana | 32 | 0.0010 |
| Hawaii | 9 | 0.0148 | Minnesota | 33 | 0.0016 |
| Massachusetts | 10 | 0.0035 | Illinois | 34 | 0.0013 |
| Virginia | 11 | 0.0045 | North Dakota | 35 | 0.0009 |
| Louisiana | 12 | 0.0231 | Nevada | 36 | 0.0230 |
| Wisconsin | 13 | 0.0023 | Alaska | 37 | 0.0165 |
| Arizona | 14 | 0.0035 | South Carolina | 38 | 0.0016 |
| Rhode Island | 15 | 0.0018 | West Virginia | 39 | 0.0017 |
| Mississippi | 16 | 0.0031 | North Carolina | 40 | 0.0012 |
| Michigan | 17 | 0.0023 | Georgia | 41 | 0.0013 |
| New York | 18 | 0.3355 | South Dakota | 42 | 0.0013 |
| Wyoming | 19 | 0.0130 | Tennessee | 43 | 0.0011 |
| New Mexico | 20 | 0.0115 | Kansas | 44 | 0.0023 |
| New Hampshire | 21 | 0.0034 | Oklahoma | 45 | 0.0008 |
| California | 22 | 0.0840 | Arkansas | 46 | 0.0022 |
| Iowa | 23 | 0.0044 | Texas | 47 | 0.0010 |
| Pennsylvania | 24 | 0.0117 | Alabama | 48 | 0.0056 |
| | | | Kentucky | 49 | 0.0014 |
| | | | Missouri | 50 | 0.0008 |

Some of the patterns that emerge from the map are just as we might predict. Not surprisingly, Oregon and Washington have high levels of membership in environmental groups, as do several states in the Northeast (Vermont and Connecticut). States in the center of the country have the lowest levels of membership. It may, however, be surprising that the cluster of states including Arizona, New Mexico, Colorado, Wyoming, and Nebraska have such high levels of membership.

Figure 1:

Environmental Group Membership, 1996

Factor combining proportion of state population belonging from three groups

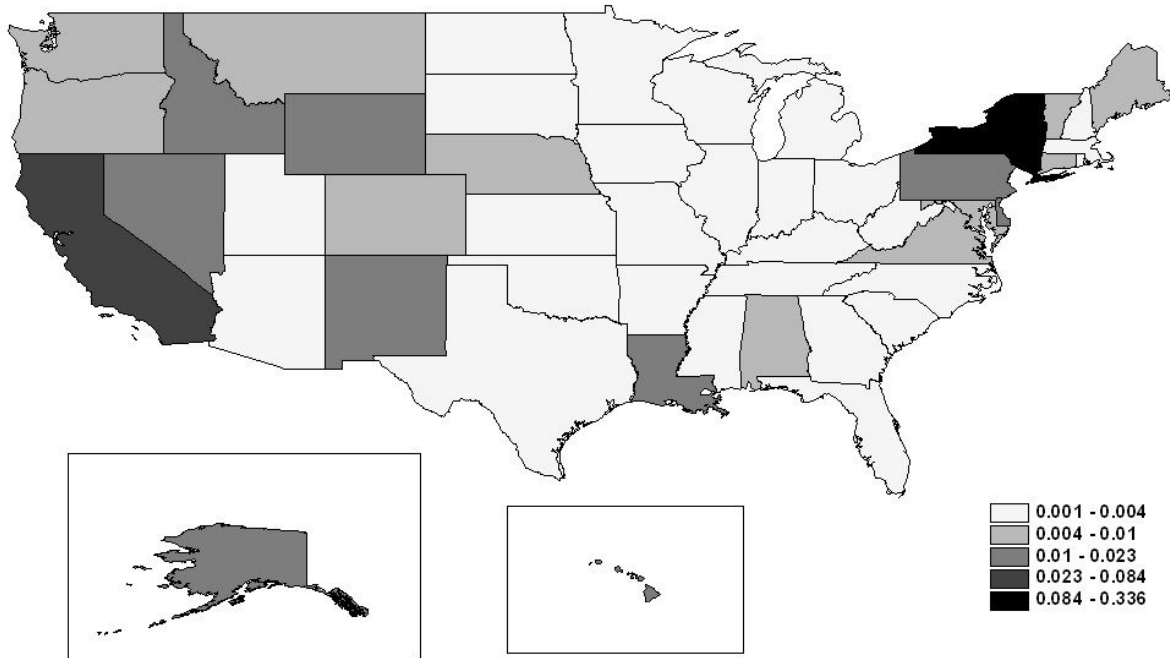


In addition to considering levels of membership, it is useful to consider the variability of the membership, since this is informative about population heterogeneity. Table 3 reports the

standard deviation of NRDC membership. It reports only the standard deviations from one of the groups, but the standard deviations among the three are all correlated at above 0.53. Figure 2 maps the standard deviation of zip code level membership in NRDC by state. The states with the highest levels of membership, like Washington and Oregon, have relatively low heterogeneity. The least variability is exhibited by the Midwest, where both states with high levels of membership (Wisconsin and Michigan) and those with low levels of membership (South Dakota and Missouri) are quite homogenous. The two states with the highest heterogeneity are California and New York. New York has high levels of membership, but California only has middling levels of membership in environmental groups. States that we might otherwise expect to be relatively homogenous, like Idaho, Nevada, and Wyoming, actually exhibit considerable variability in environmental group membership. These surprising findings demonstrate that work using environmental group membership to predict political outcomes, such as congressional voting and environmental policy, should consider not just levels of membership but variability. The geographic variability in some states might help to explain any lack of correlation between environmentalism and outcomes of interest.

Figure 2:

State Variability in NRDC Membership, 1996



IV. Over Time Patterns of Membership

Although the groups were hesitant to provide data, the NRDC did offer data in both 1996 and 2006. This enables examination of over time dynamics in membership. The major environmental groups have experienced membership growth over this time period. The median percent change in membership in a zip code over these 10 years was 77%, reflecting the high levels of growth in NRDC membership. At the state level, the states with the lowest percentage change were Utah (42%), Louisiana (46%), and the District of Columbia (47%). More than half of the states more than doubled their membership numbers. The most remarkable growth

(Kahn 2007). The state factor is correlated at 0.45 with the Democratic vote share in the 1996 election, lower than its correlation with Green Party vote as expected. This suggests that environmental group membership does not just tap a left-right ideological stance, but a particular attitude toward the environment.

VI. Discussion

The similarity of environmental group membership among the three groups presented here and its correlation with Green Party vote demonstrated the ability of membership to capture underlying environmentalism, rather than just individual group membership patterns. State patterns verified prior findings that the Northwest and Northeast have relatively high levels of environmentalism but also offered some surprises. In particular, environmental membership is not particularly high in California but is surprisingly high in Louisiana and Mississippi. The center of the country is relatively homogenous with respect to environmentalism, but there is surprising heterogeneity in the West and Northeast. Finally, NRDC membership increased greatly over the ten years between 1996 and 2006 with some spatial patterns as to where the large increases occurred.

Future work will take advantage of the spatial disaggregation of the zip code level data to identify socioeconomic correlates of environmental group membership. While such work has been done at the cross-national level, we know very little about what motivates membership in environmental groups within the United States. Zip code data offers the unique opportunity to assess whether factors beyond income can help to predict levels of and change in environmentalism. This work also highlights the importance of understanding variability in

environmentalism, since the federal system of the United States can accentuate the importance of heterogeneity.

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