VOTING FOR CONSERVATION

WHAT IS THE AMERICAN ELECTORATE REVEALING?

SPENCER BANZHAF, WALLACE OATES, JAMES N. SANCHIRICO, DAVID SIMPSON, AND RANDALL WALSH

You know, if one person, just one person [walks in and sings 'Alice's Restaurant'] they may think he's really sick and they won't take him. . . . And if three people do it, three, can you imagine, . . . [t]hey may think it's an organization. And can you, can you imagine fifty people a day, I said fifty people a day walking in singing a bar of 'Alice's Restaurant' and walking out? And friends, they may think it's a movement.

—Arlo Guthrie

FROM 1997 TO 2004, more than 1,100 referenda for the conservation of open space appeared on state, county, and municipal ballots across the United States. By the standards of Arlo Guthrie's "Alice's Restaurant," we are witnessing a movement. The movement is widespread and encompasses every level of government and over 40 states, albeit with a concentration in the Northeast (see Figure 1). These referenda address a variety of conservation objectives, including the preservation of agricultural lands; the preservation of ecologically valuable wetlands, meadows, and woodlands; and the creation of new recreational areas. Moreover, the sources of these referenda are quite diverse: some stem from popular support at grass-roots levels and others are top-down initiatives introduced by elected officials.

Upon first glance, the support these measures receive in the ballot box is striking. Over 75 percent of the referenda pass, and most do so by a wide margin. Although most only require a simple majority for passage, the median measure receives approximately 60 percent of the vote. Figure 2 illustrates the outcomes for the referenda between 1998 and 2004, according to the "Land Vote" data set assembled by the Land Trust Alliance and the Trust for Public Lands. Each bar indicates the fraction of referenda for which the favorable vote fell within the indicated 10-percent band. There are, of course, some instances where referenda do not pass. In 2001, for instance, only 18 percent of voters in Godfrey Village, Illinois, voted in favor of spending $3.7 million on local land preservation, the lowest support in the sample. But these are the exceptions that prove the rule: when conservation measures are on the ballot, voters tend to support spending money on conserving open space.

What does this support reveal about the electorate's preferences for open space? Can we extrapolate the results from the jurisdictions with referenda to other communities that have not had them? For example, can we take the fact that taxpayers in one New Jersey County reveal a willingness to pay $1 in extra annual property tax to set aside 100 hectares of parkland in their community as evidence that taxpayers in *all* New Jersey counties would endorse a similar tradeoff? Can our experiences to date with different types of referenda and payment mechanisms guide the development of future referenda, in form or in substance? These are some of the questions that we are addressing in ongoing research combining the Land Vote data with information on the makeup of the electorate, the geographical and economic features of the jurisdictions, and specifics concerning the measures themselves.

Using the data on open space referenda to address these questions is a complex undertaking for a number of reasons. In many kinds of statistical analyses, we can safely assume that we are working with a random sample of observations. Such randomness allows us to employ powerful statistical tests. But with these conservation referenda, we are dealing with anything but randomness. They are the result of careful planning. Environmental organizations are likely to target the most promising jurisdictions for the referenda. Some, like the Conservation Fund and the Trust for Public Land, have published books (or manuals) that provide detailed guidance on "the how and where" of designing and introducing conservation referenda. Accordingly, the jurisdictions that hold them are not likely to be a random sample of all jurisdictions.
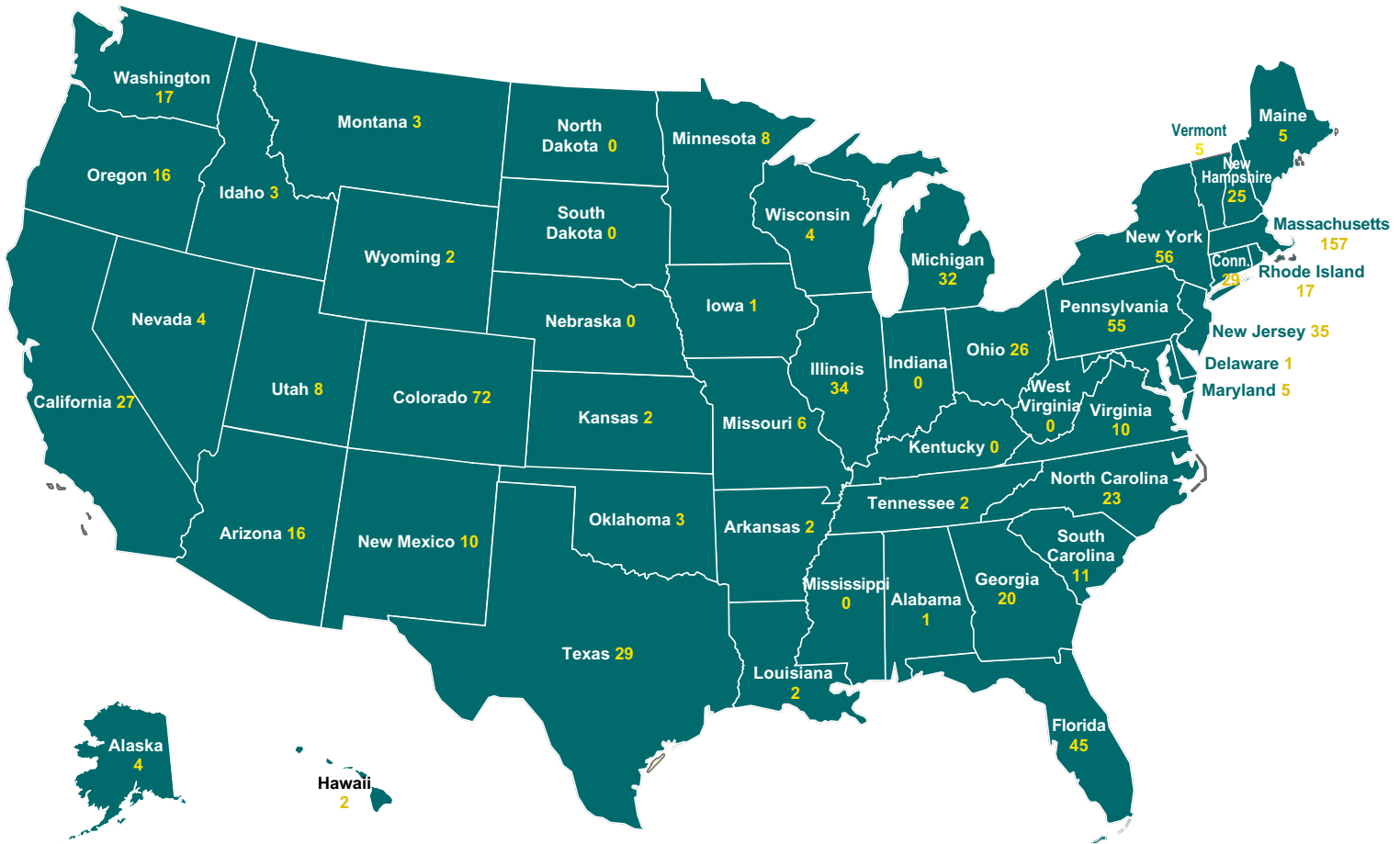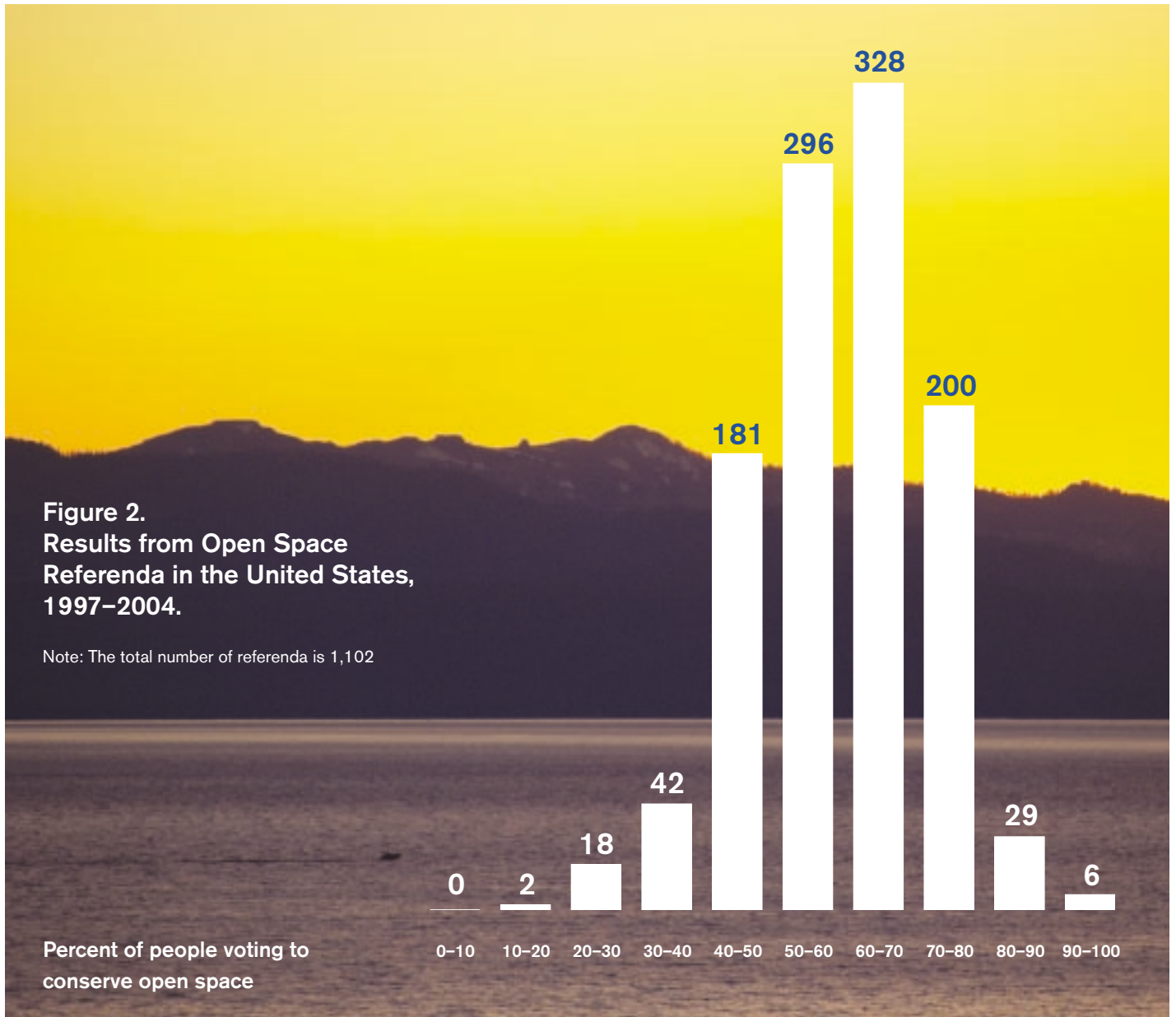
Figure 1.
Number of Open Space Referenda in the United States from 1997–2004

The implication is that we cannot simply take the results from the referenda in our sample as being representative of attitudes or preferences for the country as a whole. We first must explain how the 134 jurisdictions that held conservation referenda in 2005 differ from the other 3,000-odd counties and far larger number of townships, municipalities, and special districts in the United States. This statistical puzzle, incidentally, is the well-known problem of "selection bias." The 2000 Nobel Prize in Economics was awarded to Professor James Heckman of the University of Chicago largely for his work in developing methods that permit statistical inferences from non-random samples.

POLITICAL ECONOMY OF OPEN SPACE REFERENDA

Our research first focuses on understanding the political questions associated with open space referenda, such as explaining where they occur and the determinants of their success. For example, a natural question to ask is what kinds of communities are likely to place such measures on the ballot. Our approach is to divide this analysis into two complementary and nested scales: an in-depth investigation into referenda in Colorado and a nationwide analysis of county-level referenda. The goal is to understand more fully the nature of the support for public conservation of open space and to gain insights into how the specific form of ballot measures contributes to their success. The results will help community leaders and other decisionmakers better understand the factors that determine the performance of conservation referenda at the ballot box.

The Colorado study focuses on a total of 15 county-level open space referenda that occurred since 1997 in nine Colorado counties. We are currently disaggregating vote totals at

Figure 2.
Results from Open Space Referenda in the United States, 1997–2004.

Note: The total number of referenda is 1,102

| | 328 | 296 | 200 | 181 | 42 | 18 | 29 | 6 | 2 | 0 |

Percent of people voting to conserve open space

0–10 10–20 20–30 30–40 40–50 50–60 60–70 70–80 80–90 90–100

the precinct level (there are approximately 20–200 precincts per county) to allow us to evaluate how different demographic groups vote on the same open space referenda. We are also collecting voting data on other referenda, such as school financing measures that were on the ballot concurrent with the open space measures that we are studying. Analyses of differences across demographic groups in their relative support for different ballot measures will provide additional insights into the motivations driving support for open space protection. For example, to the extent that ecological or recreational motives lie behind the support for the conservation of open spaces, renters would be expected to be just as supportive as homeowners. To the extent the motive is a restriction in land supply to drive up property values, homeowners are more likely to be the driving force. In addition to addressing such questions with local demographic data, this finer scale analysis will permit us to delve deeper through interviews and local sources into the way that conservation referenda have been initiated, designed, and publicized.

At both scales of analysis, two sets of variables are clearly important in explaining which types of communities are more likely to have referenda. One is the demographic makeup of the residents themselves. As the Trust for Public Land points out in its *Conservation Finance Handbook* (2004), "The first step is to find out precisely who lives and votes in your community." These demographic characteristics of the residents, including their ages, incomes, education, and, as just mentioned, homeownership, can have much to do with their predisposition toward conservation issues. The other is the particular circumstance of a jurisdiction that can reveal the kinds of pressures for conservation that are likely to be present. Such things as the extent of farmland and its rate of loss to new development, the presence of ecologically sensitive landscapes, and rates of economic growth and their form can indicate the extent of concerns with local conservation.

Once these measures are on the ballot, there is the related question of how they fare. In addition to controlling for community characteristics, we need information on the nature of the conservation measure and on its specific form (including such matters as the method of finance). An obvious issue is the cost to the community of any conservation proposals, and this depends in large part on local land prices. The role of land prices is, however, not straightforward. Where land is more expensive, preserving a given amount of open space will obviously be more costly, potentially reducing support for conservation measures. But land prices are generally higher precisely in those areas where open space is being lost to urban sprawl or, in other words, where conservation is most needed. These dual effects must be carefully considered when trying to understand the role of land prices.

Along with the level of funding, a key decision in the design of a conservation measure is the proposed method of finance. Some states prescribe the precise way in which such programs are to be funded, while others allow more discretion. Local property taxes or bond issues have funded most of these measures, but in some instances, local goverments have turned to increments to local sales taxes or even income taxes. Some states have provided support as well, frequently in the form of matching grants that supplement funds raised locally.

The choice between local property taxes and the issuance of bonds raises an intriguing issue. The theory of local public finance says that it really should not matter whether a community chooses to finance a conservation program (or any local public project) through bonds or property taxes. That is, there is a kind of "fiscal equivalence." In the case of property taxes, for example, the community pays for the program with an increase in current property tax levies. With bond finance, the community borrows the needed funds but takes on the obligation to repay these funds at a future time. The future tax liability associated with the bond issue, however, is now attached to local property, and the current market value of local residences and businesses should be reduced accordingly. In the end, the residents pay for the program one way or the other. Of course, they also reap the benefits from the preservation of the open space, which will, in their own right, enhance local property values.

The general point is simply that the benefits and the costs of local programs (including future benefits and costs) tend to manifest themselves in current local property values. And there is a lot of evidence to support this proposition. For example, it is commonly observed that residences in excellent school districts sell

LAND PRICES ARE GENERALLY HIGHER PRECISELY IN THOSE AREAS WHERE OPEN SPACE IS BEING LOST TO URBAN SPRAWL AND CONSERVATION IS MOST NEEDED. THESE DUAL EFFECTS MUST BE CAREFULLY CONSIDERED WHEN TRYING TO UNDERSTAND THE ROLE OF LAND PRICES.

at a premium or that homes in unsafe areas command lower prices; likewise, jurisdictions with relatively high tax rates have, other things equal, commensurately lower property values. It is thus unclear whether it should make any difference in the appeal of conservation referenda whether they are financed by local property taxation or bond issues.

Preliminary analysis has turned up an interesting finding on this matter. The passage rate on conservation referenda funded by local property taxation (54.5 percent) is significantly higher, on average, than those funded by bond issues (30.6 percent). This would seem to imply that voters support referenda that rely on local property taxes over those financed by bonds. However, on more careful consideration (making use of multiple-regression analysis), we find that jurisdictions that use property-tax finance in their referenda have other characteristics that make passage more likely. And when we control statistically for these other factors (such as demographic makeup, geography, and the level of the jurisdiction), it turns out that property taxation is more of an impediment to passage than is bond finance. Perhaps local electorates find it appealing to spread out payments over time through the use of bonds rather than paying the whole bill upfront in current property taxes.

WILLINGNESS TO PAY TO PRESERVE OPEN SPACE

These referenda data can tell us how much the American populace is willing to pay for open space protection—a crucial ingredient in benefit-cost analysis. Typically, such information is obtained through surveys eliciting people's values. But such surveys employed in these techniques are often faulted for failing to ask people "real" questions. There is a difference between asking people what they would be willing to pay for something and actually making them live with higher taxes. Actual referenda obviate this problem: taxpayers voting in elections really are putting their money where their mouth is.

While one might not think of a referendum as a decision to "purchase" something, it is: voters decide whether to tax themselves to pay for the preservation of local open space. (Admittedly, this presumes a fairly high level of sophistication among certain voters; renters, for example, must realize that higher property taxes will eventually be factored into their rent). By looking at the way the share of people voting to support conservation falls when the "price" (in current or future taxes) increases, we can infer this trade-off. Evidence of people's willingness to pay for such "purchases" would be useful for a number of different purposes. In designing proposals for the ballot, for example, the *Conservation Finance Handbook* stresses that one of the key issues is determining how much voters are willing to spend.

More generally, public decisionmakers must determine whether the benefits of preserving nature justify the costs. Federal agencies in the United States are required by Executive Order to quantify the benefits of the rules they propose, where possible, and local decisionmakers often try to take such information into account. Quantifying benefits is particularly difficult when they arise from the preservation of biological diversity and natural ecosystems, for which no established markets and prices exist.

Thus, these referenda on the conservation of natural lands and open spaces, though themselves local, have the potential to unlock information that would be useful to state and federal policymaking. Of course, a study of their progress also can help inform and guide the activities of land trusts and other stakeholders, as they consolidate and extend the conservation "movement." ∎