Public Support for Protecting Grand Canyon Resources

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Abstract. Personnel of the Social Research Laboratory at Northern Arizona University surveyed the adult human population of Arizona to explore public attitudes toward protecting Grand Canyon resources. The telephone survey of 402 adult Arizona residents was conducted between 22 and 28 February 1993. Survey results indicate widespread (74%) support for resource protection at the Grand Canyon. Regardless of the nature of the threat, citizens support a variety of resource protection strategies. The survey also indicates that citizens are willing to incur personal costs to protect Grand Canyon resources.

Key words: Arizona, attitudes, national park, policy, survey.

The Grand Canyon is one of Arizona's most valued resources. Approximately 443.2 km long, 1.6 km deep, and averaging 16 km wide, the Grand Canyon attracts tourists traveling through the Southwest—more than 4 million in 1992. This volume of visitors suggests trouble in the future for such a fragile resource. Arid land, plants, animals, and soils of the canyon are threatened by the sheer number of sightseers that visit each year. Other human endeavors, such as mineral–resource extraction and the generation of electric power, also pose threats.

Early in 1993, personnel of the Social Research Laboratory at Northern Arizona University conducted a survey of Arizona residents' attitudes and opinions concerning the protection of the Grand Canyon resources. The Grand Canyon issue was included as part of the *Arizona Poll*, a biannual statewide public affairs telephone poll conducted by laboratory personnel. The issue was included in the poll as an extension of an ongoing interest among laboratory personnel to ferret out public understanding of trade-offs between protecting the environment and supporting a growing economy. Finally, whereas the Grand Canyon is intensively

studied by biologists, geologists, ecologists, botanists, and other natural scientists, this survey module created an opportunity for social scientists to evaluate public perceptions of the responsibility policymakers have to protect national park resources.

Survey Methods

The *Arizona Poll* was conducted between 22 and 28 February 1993, and 402 adult residents of Arizona were interviewed. The respondents were part of a probability sample selected through random digit dialing techniques to represent the geographic distribution of the Arizona population. Three calls were placed to each sample-point phone number and its backup number. Phone numbers were replaced as needed. The margin of error for the survey was ±5% with a 95% confidence interval.

The survey questions were designed to investigate three specific areas. First, we were interested in gauging usage patterns, and we asked questions about the frequency of Grand Canyon visits and the primary purposes of those visits. Second, the survey examined public concern for protecting Grand Canyon resources. Levels of support for various public policy solutions that attempt to neutralize resource threats were investigated. Third, whereas people can easily establish an intention to resolve abstract public policy problems, we were interested in knowing the extent to which people were willing to endure monetary costs to support these public policies. In more colloquial terms, we wanted to know if people are willing to put their money where their mouths are. Questions were asked in a closed-ended format.

Results

Park Usage

According to the *Arizona Poll*, 76% of Arizonans have visited the Grand Canyon (Fig. 1). One in five Arizonans visited the canyon during calendar year 1992 (Fig. 2). Using 1990 census statistics, this translates into approximately 2 million Arizonans having visited the canyon at some time, and 616,000 Arizonans having visited during 1992.

Age, income, and education are most closely associated with Grand Canyon visits. Whereas almost 9 in 10 older residents (61 years of age and older) have visited the canyon at some time, about 6 in 10 younger residents (18 to 35) have

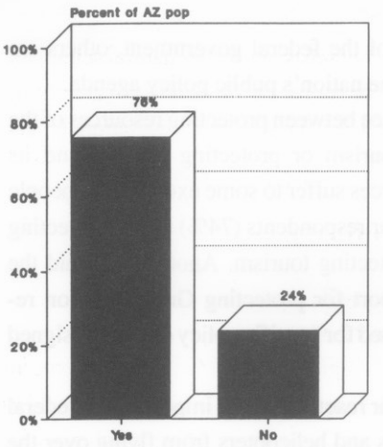

Fig. 1. Percentage of Arizonans who have visited the Grand Canyon at least once.

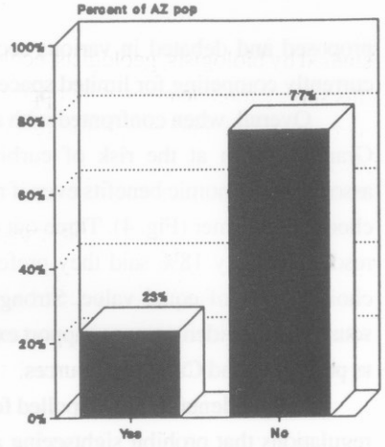

Fig. 2. Percentage of Arizonans who visited the Grand Canyon in 1992.

visited the canyon. Upper income residents (making more than $60,000 per year) are more likely to have visited the canyon than lower income residents making under $30,000 a year (87 vs. 68%). Well educated residents are also more likely to have visited the Grand Canyon than less well educated residents. Whereas 85% of residents who graduated from a 4-year college or university have visited the canyon, only 59% of people without a high school degree have visited.

Arizona residents were asked to clarify their primary reason for visiting the Grand Canyon. Three times as many people visit the canyon for sightseeing than to engage in more outdoor types of activities (Fig. 3). Sixty-seven percent of respondents who have visited the canyon say they drive their cars through the park, stop at lookout points, and observe the beauty of the canyon. Twenty-two percent of visitors from Arizona visit to be involved in outdoor activities including hiking, camping, rafting, bird watching, and other, more strenuous ventures. Another 7% say they engage in both sightseeing and outdoor activities.

Support for Policies Designed to Protect Grand Canyon Resources

Respondents to the Arizona Poll were asked to express their support, or lack thereof, for a series of public policies designed to protect Grand Canyon resources. The policy options were in various stages of formulation by national and state policymakers. Whereas some of the policy options discussed have actually been

proposed and debated in various sectors of the federal government, others are currently competing for limited space on the nation's public policy agenda.

Overall, when confronted with a choice between protecting resources of the Grand Canyon at the risk of curbing tourism or protecting tourism and its associated economic benefits even if resources suffer to some extent, most people choose the former (Fig. 4). Three out of four respondents (74%) prefer protecting resources. Only 18% said they prefer protecting tourism. Another 5% said the choices were of equal value. Strong support for protecting Grand Canyon resources was evident, as was support expressed for specific policy options designed to protect Grand Canyon resources.

Respondents were first polled for their reactions to the imposition of federal regulations that prohibit sightseeing planes and helicopters from flying over the most popular portions of the Grand Canyon. Twice as many people agreed with prohibiting flights rather than the option of maintaining or increasing existing flights (Fig. 5). The final numbers for supporting prohibitions on flying over designated areas of the Grand Canyon were 32% very supportive, 32% somewhat supportive, and 31% no support (6% did not know; percentages do not equal 100% because of rounding).

Next, *Arizona Poll* respondents were asked about their level of support for uranium mining in and near Grand Canyon National Park. Mining for uranium has taken place outside the boundaries of Grand Canyon National Park, and resources

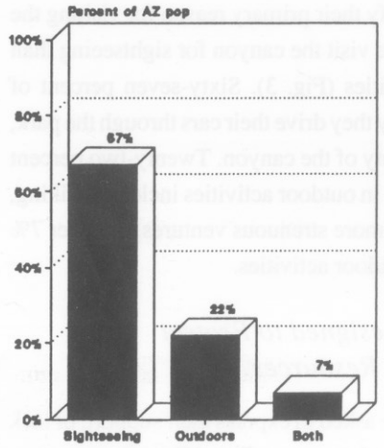

Fig. 3. Percentage of Arizonans involved in sightseeing, hiking, or both during visits to Grand Canyon National Park.

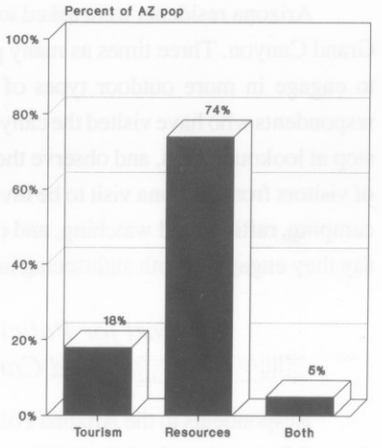

Fig. 4. Percentage of Arizonans who support protecting the resources, promoting tourism, or a compromise between the two.

within the park have been affected. One in five respondents (20%) expressed support for uranium mining in the vicinity of Grand Canyon National Park (Fig. 6). Two-thirds of respondents (65%) did not support uranium mining in the region. Another 15% were unsure of their position on this issue.

Willingness to Incur Personal Costs

Survey researchers often find respondents willing to "do the right thing" when it comes to supporting policies that promote social and economic justice. Support for environmentalism, in particular, generally cuts across age, education, income, and ideological cleavages. One way of moving beyond the ease with which people offer abstract support for environmentally conscious policies is to examine willingness to incur personal costs to promote individual goals. Support for specific policy options must be considered somewhat skeptically if people are simultaneously unwilling to back that support with a personal commitment albeit financial, emotional, or otherwise. To more fairly gauge public support for protecting Grand Canyon resources, the spring 1993 *Arizona Poll* included a series of questions regarding policy options that incur personal costs.

Concerning the Glen Canyon Dam, some argue that sudden and massive flows of water released into the Colorado River from the Glen Canyon Dam affect the Grand Canyon. Some argue that this practice can only be curbed at the expense

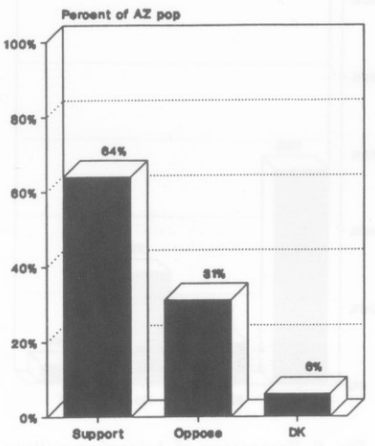

Fig. 5. Percentage of Arizonans for and against regulation of aircraft over the Grand Canyon.

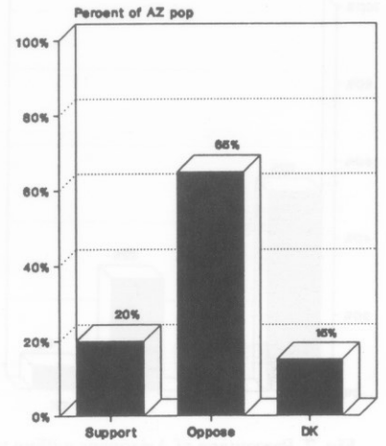

Fig. 6. Percentage of Arizonans for and against regulation of uranium mining in and around the Grand Canyon.

of higher electric rates. Accepting the validity of that proposition, the *Arizona Poll* asked respondents specifically if they would be willing to pay higher electric rates to help curb the sudden flows of water. More than half of the respondents (52%) said they would be willing to pay higher electric rates in the name of protecting Grand Canyon resources (Fig. 7). Another 13% said they would possibly support this policy option. Twenty-nine percent indicated they would not support this policy option.

Air pollution from a variety of sources affects visibility at the Grand Canyon. One of the sources of air pollution is the Navajo generating station near Page, Arizona. Equipment to clean emissions and thereby reduce air pollution is said to cost a substantial sum of money, and this sum would be passed on to consumers through their utility bills. When asked if they would pay higher utility rates to reduce the amount of pollution emitted over the Grand Canyon, a majority (67%) of respondents again said they would support this strategy (Fig. 8). Fifty-six percent of respondents said they would support paying higher utility rates and another 11% said they would possibly support this strategy. Twenty-nine percent of respondents said they would definitely not support paying higher utility rates to reduce air pollution over the Grand Canyon.

In addition, people were asked whether or not they would support restricting the number of vehicles allowed to enter the Grand Canyon National Park at any

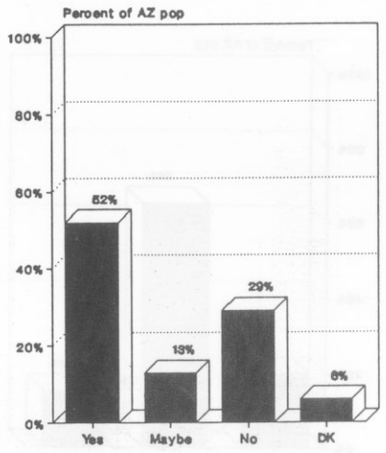

Fig. 7. Percentage of Arizonans willing to pay higher electricity rates to protect Grand Canyon's environment from sudden and massive flows of water.

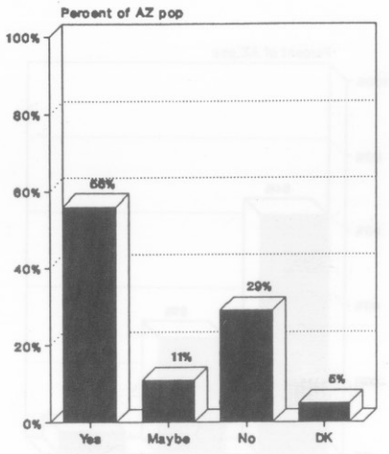

Fig. 8. Percentage of Arizonans willing to pay higher utility rates to help reduce air pollution as it affects the Grand Canyon.

one time. Seventy-eight percent of respondents said yes (Fig. 9). Another 6% answered maybe to this question. Twelve percent opposed the strategy.

Finally, people were asked about their own willingness to pay higher entrance fees if those fees went directly to protecting the Grand Canyon. A majority (79%) of respondents said they would support this option (Fig. 10). Twelve percent of the public said they would not support paying higher entrance fees to protect Grand Canyon resources.

Conclusions

The spring 1993 *Arizona Poll* results make it clear that Arizonans have high regard for Grand Canyon National Park. People in Arizona are familiar with and regularly visit the park and support a wide variety of policy options that are intended to protect the park's resources. Support ranges from a bare majority to a resounding mandate of support. Furthermore, there is much support for policy options that impose personal costs on the Arizona public. This is significant because many policy options designed to protect Grand Canyon resources would inflict a disproportionate burden on residents of Arizona.

The survey results presented here suggest the need for additional attitudinal research of residents of Colorado, Utah, and New Mexico and other citizens

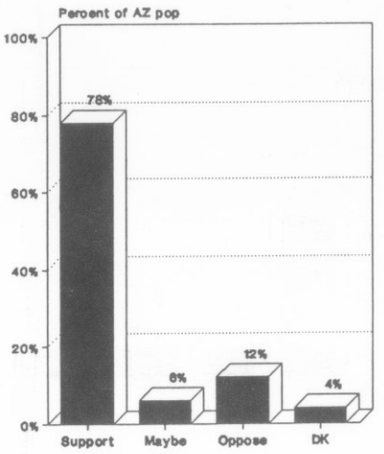

Fig. 9. Percentage of Arizonans willing to restrict vehicular traffic into Grand Canyon National Park to help reduce pollution.

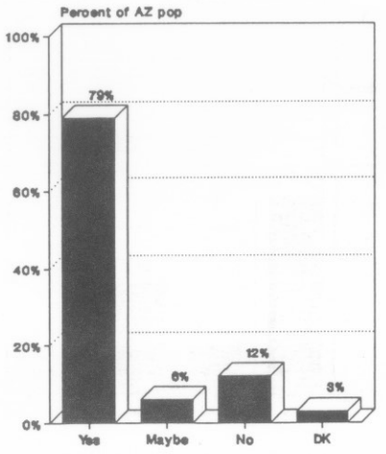

Fig. 10. Percentage of Arizonans willing to pay higher entrance fees at Grand Canyon National Park to help protect resources.

(including tourists) who would be asked to pay a disproportionate share of the costs of protecting the Grand Canyon.

Public support for the Grand Canyon is strong. The Arizona public support is unyielding regardless of whether the costs are borne more generally by economic establishments that thrive on tourist dollars or whether the costs are borne more personally in the form of higher utility rates.

Appendix. Spring 1993 *Arizona Poll* Questionnaire and Responses (n = 402)

As you know, the Grand Canyon is a very popular tourist attraction in Arizona. Have you ever visited the Grand Canyon?

Have visited	76%
Never visited	24
	100%

How many times did you visit the park during calendar year 1992?

Visited park in 1992	23%
Visited park, but not in 1992	53
Never visited park	24
	100%

Do you typically visit the Grand Canyon National Park for sightseeing, or do you get involved in outdoor activities such as hiking, camping, or river rafting?

Sightseeing	67%
Outdoor activities	22
Both	7
Don't know	4
	100%

Controversy exists over some uses of the Grand Canyon's resources, and I would like your opinion on two of these issues. First, how supportive are you of federal regulations that prohibit sightseeing planes and helicopters from flying over the most popular portions of the Grand Canyon? Are you very supportive, somewhat supportive, or not supportive?

Very supportive	32%
Somewhat supportive	32
Not supportive	31
Don't know	6
	101%[1]

Second, are you very supportive, somewhat supportive, or not supportive of uranium mining in the region in and around Grand Canyon National Park?

Very supportive	7%
Somewhat supportive	13
Not supportive	65
Don't know	15
	100%

[1]Frequencies do not total 100% because of rounding.

Grand Canyon National Park receives between 4 and 5 million visitors each year, and whereas these visitors bring tourist dollars to the region, they also place a considerable strain on park resources such as the environment, historic buildings, and park ruins. Which of the following statements comes closer to your own point of view?

Statement one: Protection of the Grand Canyon's resources should be given priority, even at the risk of curbing tourism.

Statement two: Tourism should be given priority, even if the resources suffer to some extent.

Protect resources	74%
Protect tourism	18
Both	5
Neither/don't know	3
	100%

The environment in Grand Canyon National Park is affected by sudden and massive flows of water released from Glen Canyon Dam to keep electricity rates low. Would you be willing to pay higher electricity rates to protect the Grand Canyon's environment?

Yes	52%
Maybe/it depends	13
No	29
Don't know	6
	100%

Air pollution from a variety of sources affects visibility at the Grand Canyon. Would you be willing to pay higher utility rates to reduce air pollution that restricts visibility at the Grand Canyon?

Yes	56%
Maybe/it depends	11
No	29
Don't know	5
	101%[2]

To reduce pollution and protect the park's many resources, would you accept restrictions on the number of vehicles allowed into Grand Canyon National Park on any given day?

Yes	78%
Maybe/it depends	6
No	12
Don't know	4
	100%

[2]Frequencies do not total 100% because of rounding.

Would you be willing to pay higher entrance fees when you visit Grand Canyon National Park to protect resources?

Yes	79%
Maybe/it depends	6
No	12
Don't know	3
	100%