

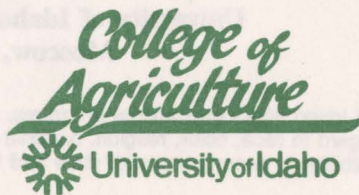
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**Published and distributed by the
Idaho Agricultural Experiment Station
Gary A. Lee, Director**

**University of Idaho College of Agriculture
Moscow, Idaho 83843**

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Introduction

Since the 1960s natural resource and environmental issues have been among the major concerns of citizens in the United States. Environmental legislation passed over the last three decades has had dramatic impact on those states with significant publicly owned natural resources. Idaho abounds in a variety of publicly owned natural resources and, as a result, has been the focus of numerous conflicts over their "best" use.

People with a preservation orientation argue that Idaho contains many of the best potential wilderness areas, wild and scenic rivers, roadless areas, etc. Those with a utilization orientation argue that the livelihood of Idaho residents depends on the use of these resources for timber, agriculture, irrigation, electric power, etc. They also point out that decisions about resource use are often made at the national level rather than the state or local levels with little consideration given to the needs and desires of the state's residents. They argue that these important decisions are made on the basis of political whims that often do not represent the wishes of people in the state.

Objectives

This study analyzed the attitudes of Idaho residents toward natural resource issues over the 15-year period from 1974 to 1989. The objectives of the analysis were to show the trend of Idaho residents' attitudes toward preservation or utilization of natural resources and to better understand the reasons behind any changes observed. The analysis also attempted to describe the segments of the population that tend to be preservation or utilization oriented.

Methods

The surveys

The data for this analysis came from four surveys of Idaho residents in 1974, 1978, 1984, and 1989.

The 1974 survey — The 1974 survey was originally developed to study attitudes toward wild and scenic rivers but was broadened to encompass the area's natural resource management in general in order to be of

more value to resource decision makers concerned with land use in Idaho (Carlson 1976). The sampling procedure was designed by the Idaho Survey Research Center at the University of Idaho. A sample of the Idaho population was drawn from a random selection of voting precincts and random selection of clusters within each precinct. Fifteen respondents were systematically drawn from each precinct for a total of 935 people.

The survey questionnaire was pretested twice by members of a graduate seminar in interviewing techniques and administered in the spring of 1974 by interviewers hired and trained by the survey research center. The interviewers administered the survey at the respondents' homes but allowed respondents to fill out the questionnaire themselves. The interviewer's major role was to answer questions, clarify instructions, and ensure a completed questionnaire. As a result 848 (91 percent) usable questionnaires were completed.

A comparison with 1970 census information indicated that the sample had a slightly higher number of younger respondents and a larger percentage of farmers.

The 1978 survey — This survey was done in cooperation with the Idaho Division of Budget, Policy Planning, and Coordination. The questionnaire was mailed to a randomly selected sample drawn from telephone directories from the entire state (Sargent, Konn, and Carlson 1981). An intensive follow-up resulted in 1,453 usable surveys, a return rate of 65 percent.

An effort was made to secure an equal number of responses from each sex, with the result that 51 percent of the respondents were male and 49 percent were female.

The 1984 survey — In 1983, the College of Agriculture was required to develop a 10-year plan in teaching and research in conjunction with a total University of Idaho effort to set goals and objectives for the next decade. As part of the planning effort, the college decided to solicit input from citizens of the state (Carlson 1986). A random sample of 1,223 Idaho residents was selected from the state's telephone directories. After several follow-up mailings, 675 usable responses were obtained for a 55 percent return rate. The low return rate was not unexpected and was likely the result of the questionnaire's length and complexity.

The 1989 survey — A random sample of 5,000 Idaho residents was used in a telephone survey to develop an estimate of the number of horses in the state. Survey questions related to the role of the College of Agriculture and to attitudes toward state issues were asked of the first 1,067 people completing interviews. Completed interviews were based on a total of 1,546 contacts for a response rate of 69 percent.

Measurement of resource preservation and utilization orientation

In the 1974 survey many items were used to assess attitudes toward natural resource use in Idaho. From these items four were selected that measured attitudes toward the use of natural resources for purposes that would result in increased preservation of the resource.¹ The items selected follow:

1. We have enough state parks in Idaho.
2. We have enough legally designated wild and scenic rivers in Idaho.
3. Enough land has been set aside for wildlife protection and recreation.
4. We have enough area legally designated as wilderness in Idaho.

Respondents were asked to indicate whether they strongly agreed, agreed, neither agreed nor disagreed, disagreed, or strongly disagreed with each item. The responses to each item were totaled to obtain a score for the scale. This scale was found to be useful in explaining attitudes toward free-flowing rivers (Carlson 1974), toward public preferences in resource use (Carlson 1976), toward recreation management issues (Carlson and Sargent 1977), and toward various recreation developments (Sargent and Carlson 1979).

In the 1978 and later surveys five additional items were added to the scale to broaden its coverage of natural resource issues. The five items added to the four used in the 1974 survey deal with the utilization of resources:

1. The use of rivers to provide electricity, irrigation, and water for domestic use should be given high priority in Idaho.

¹The selection of the items was based on factor analysis, a statistical procedure that shows which items group together. The resulting items were further analyzed using a statistical item analysis called Cronbach's Alpha (Cronbach 1951). Cronbach's Alpha is a measure of the degree to which items in a scale are correlated with each other and with the total score of the scale. The higher the Alpha, the better the scale. The Alpha for the items used in this analysis were in the high .80s, indicating high intercorrelations among the items and that the items can be appropriately used as a scale.

2. We have enough irrigated farmland in southern Idaho.
3. We have enough industrial development in Idaho.
4. The best use of mountainous forested land in Idaho is to provide timber products and jobs for Idahoans.
5. We have enough roadless areas.

Response categories were the same for these items. The combined set of items was used in an analysis of population growth and community satisfaction in Idaho (Sargent, Konn, and Carlson 1981).

The original four items were used in all four surveys and form a short version of the preservation-utilization scale. The short form of the scale is used later in the analysis of the influence of background factors on preservation-utilization orientation. The four original items and the five additional items are analyzed separately in the following section.

Attitudes toward selected resource issues

Preservation issues

The four items in the short preservation-utilization scale all deal with resource preservation. In addition, by 1978 roadless areas had become an important preservation topic and was included in the surveys since that time (Table 1). It was not included as part of the scale for this analysis, however.

The most noticeable change over time was the decline in disagreement with all items since 1974. A disagree response means the respondent felt Idaho had too little of the resource type and would prefer more. The percentage of Idahoans feeling that Idaho had too little of each resource type dropped by almost half between 1974 and 1978 then remained about the same through 1989.

Responses in all surveys reflected a greater preference for more wildlife protection areas than for more of the other areas, but this preference also declined over time. Also, fewer respondents were neutral in 1989, with previously neutral responses moving to the agree response category. The agree response reflects the attitude that Idaho has enough of these resource types.

In summary, since 1978 the majority of Idaho residents have felt that the state has enough state parks, wild rivers, wilderness areas, roadless areas, and wildlife protection areas. In 1989 about two-thirds to three-quarters of the respondents felt the state had enough of these resource types. No more than about one quarter indicated that the state had too few of these areas. This was a significant shift from the early '70s when the percentage of respondents who felt Idaho had enough of these areas was only slightly greater than the percentage that felt the state had too few.

Utilization issues

Four items were added to the three later surveys to complement the preservation items. They deal with the utilization of resources for agriculture, timber, hydropower, and industrial development. The largest shift in attitudes toward resource utilization was toward a preference for more industrial development. In 1978, about half of the respondents felt Idaho had too little industrial development, a quarter were neutral, and a quarter felt the state had enough. In 1984, 60 percent wanted more industrial development, and in 1989 81 percent wanted more.

On the other hand, fewer respondents in 1989 wanted more irrigated farmland than had wanted it in 1978. The percentage of respondents who felt the state had enough irrigated farmland more than doubled between 1978 and 1989. The percentage wanting more irrigated farmland was slightly higher in 1989 than in 1984, however (Table 2).

The percentage of respondents who felt the "best use" of forest land is for timber and jobs increased slightly from 1978 to 1989. At the same time, the percentage of Idahoans who disagreed that the best use of forest land is for timber and jobs increased. This resulted from a polarization of responses away from the neutral category to the agree and disagree categories in about equal numbers. However, a majority of respondents in both 1978 and 1989 agreed that the best use of forest land is for timber and jobs.

In all years, a majority of the respondents favored more river development. There was strong agreement among Idahoans that high priority should be given to using rivers for irrigation and power, but the percentage decreased slightly from 1978 to 1989.

In general, since the early 1970s Idahoans' attitudes have shifted toward greater utilization and development.

This is further reinforced by the increasing percentage of Idahoans who agreed that we have enough preservation areas including state parks, wild rivers, wilderness and roadless areas, and areas for protection of wildlife.

Factors affecting preservation-utilization orientation

The four items asked on all four surveys were combined into a single preservation-utilization scale and subjected to factor analysis and a reliability analysis for each year. Analysis of the scale with the additional utilization items included did not result in any significant change in a respondent's preservation-utilization score. A low score on the preservation-utilization scale represents a utilization orientation, and a high score represents a preservation orientation.

Attitudes shifted toward greater utilization of resources from 1974 to 1989. The highest preservation-utilization score was in 1974 (3.03). It dropped

Table 2. Attitudes toward resource utilization by year.

Item	Response	Year		
		1978 N = 1,453	1984 N = 675	1989 N = 1,067
		(%)	(%)	(%)
We have enough irrigated farmland	disagree	44.0	29.5	32.2
	neutral	32.3	36.2	12.7
	agree	23.7	34.3	55.1
We have enough industrial development	disagree	50.0	60.4	80.6
	neutral	22.4	19.6	3.4
	agree	27.6	19.9	15.8
The best use of forests is for timber/jobs	disagree	30.5	33.2	36.1
	neutral	18.9	18.5	7.1
	agree	50.7	48.3	56.8
Give high priority to rivers for power and irrigation	disagree	11.5	10.1	20.3
	neutral	9.8	13.0	4.7
	agree	78.7	76.9	74.9

Table 1. Attitudes toward resource preservation by year.

Item	Response	Year			
		1974 N = 848	1978 N = 1,453	1984 N = 675	1989 N = 1,067
		(%)	(%)	(%)	(%)
We have enough state parks	disagree	36.3	21.5	17.9	23.6
	neutral	19.1	21.8	20.4	6.6
	agree	44.6	56.6	61.6	69.8
We have enough wild rivers	disagree	35.9	19.4	20.8	19.3
	neutral	17.4	15.4	15.1	3.5
	agree	46.6	65.2	64.2	77.2
We have enough wilderness	disagree	34.2	18.1	19.7	17.4
	neutral	18.0	14.5	13.0	4.6
	agree	47.8	67.4	67.3	77.9
We have enough wildlife areas	disagree	53.2	29.0	26.4	26.5
	neutral	18.4	14.9	17.9	5.3
	agree	28.3	56.1	55.6	68.2
We have enough roadless areas	disagree	—	16.9	16.4	16.2
	neutral	—	16.2	14.3	5.8
	agree	—	66.9	69.4	78.1

significantly in 1978 (2.42), stayed the same in 1984 (2.42), then dropped again in 1989 (2.15).

Four background characteristics asked on all four surveys were used in a statistical model to determine the relative importance of these background variables on resource orientation.² Several additional variables were included in some surveys and not in others. These variables were included in the analyses for the appropriate years and are discussed in terms of their influence for those years (Table 3).

Variables influencing the variation in scores among respondents showed a consistent pattern for most of the surveys. Age and education were statistically significant variables in the first three surveys, and age was the significant variable in the 1989 survey. Younger and better-educated respondents tended to have more preservation-oriented scores than older respondents and less-educated respondents.

Number of years in Idaho was included in the last three surveys and was a statistically significant influence in all of them. Newer residents were more preservation oriented than those who had lived in the state longer. A more detailed analysis of length of residence was done by comparing the orientations of respondents who were "newer residents" on earlier surveys with their orientations on later surveys, when they had lived longer in the state. Results suggested that persons tended to become more utilization oriented the longer they resided in the state.

Current and childhood residences were obtained in 1974 and 1984. Respondents in the 1974 survey who grew up in smaller communities and those who lived in smaller communities in 1984 were less preservation oriented than respondents from larger communities.

²Multiple classification analysis (MCA), a version of analysis of variance, was used as the statistical test to determine the relative importance of the influencing variables.

The addition of childhood and current residence to the model in 1974 increased the explained variance from 7.4 to 11 percent. The addition of length of time in Idaho, childhood residence, and current residence in 1984 doubled the explained variance from 7 to 14.3 percent.

Although income level was not a statistically significant influence on orientation, respondents with lower incomes tended to become more preservation oriented over the time period of the first three surveys. For the most recent survey no income relationship emerged.

Summary and conclusions

Four statewide surveys done at approximately 5-year intervals from 1974 to 1989 provided information on the changing environmental attitudes of Idaho residents.

- Attitudes shifted from preservation of natural resources toward utilization of them.
- The greatest shifts in utilization orientation were toward increased industrial development and toward agreement with the idea that the best use of forests is for timber and jobs.
- The percentage of Idahoans agreeing that the state already has enough preservation areas increased significantly over the 15 years.
- The percentage of Idahoans giving high priority to the use of rivers for power and irrigation decreased.
- The percentage of Idahoans agreeing that Idaho has enough irrigated farmland increased.
- In all surveys, Idaho residents with a resource utilization orientation were the older, the less educated, and those with higher incomes. No distinction emerged between males and females.
- Newer residents and those living in urban areas were more preservation oriented than long-term residents and those from rural areas.
- Residents tended to become more utilization oriented the longer they lived in the state.

Table 3. Relationship of background characteristics and preservation-utilization orientation by year.

Background variable	Beta coefficients							
	1974		1978		1984		1989	
Sex	-.01	(.00)	-.02	(-.02)	.00	(.00)	-.05	(-.05)
Age	-.17†	(-.15†)	-.27	(-.22†)	-.17†	(-.11)	-.24†	(-.21†)
Education level	.17†	(.14†)	.11†	(.10)	.16†	(.12*)	.08	(.07)
Income level	-.11	(-.12)	-.10	(-.10†)	-.10	(-.13†)	-.02	(.01)
Current residence	—	(.07)	—	(—)	—	(.17†)	—	(—)
Childhood residence	—	(.18†)	—	(—)	—	(.08)	—	(—)
Years lived in Idaho	—	(—)	—	(-.14†)	—	(-.15†)	—	(-.15†)
Multiple R ²	.07	(.11)	.10	(.12)	.07	(.14)	.07	(.09)
Mean preservation score	3.03		2.42		2.42		2.15	

Note: Coefficients in parentheses are for the analysis including all listed variables available for each year. Beta coefficients are a result of the statistical analysis that shows the relative importance of each of the background variables in terms of its influence on the preservation-utilization attitude. The higher the coefficient the greater the influence. Positive coefficients mean the higher the background variable the greater the preservation orientation. For example, in 1989 age was the most influential variable (-.21) and the negative sign indicates that the younger the respondent, the more preservation oriented they were.

* p < .05

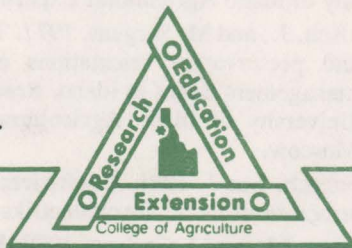
† p < .01

Earlier studies have shown that new migrants to Idaho tend to have characteristics similar to those with the higher preservation scores (Sargent and Carlson 1980). New migrants during the '70s tended to be younger and better educated, to have professional and managerial occupations, and to have higher incomes than the natives. With the exception of income level, these are the characteristics of those with higher preservation scores. This analysis suggests that these characteristics were especially prevalent during the late '60s and early '70s when the environment was emerging as a major political issue. New migrants in the '80s, on the other hand, tended to have lower preservation orientations than those of the previous decade. Also, the newcomers during the '70s became more utilization oriented over time. This, in part, may explain the increased utilization orientation of Idaho residents in the late '80s compared with the 1970s.

Another partial explanation for the changes might be that the amount of land committed to some type of resource preservation increased during the 15-year period during which the surveys took place. However, this cannot be viewed as the total reason for the observed changes because the results also showed a movement toward utilization on the utilization-oriented survey items.

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