CONSERVATION ATTITUDES: THE SPATIAL DIMENSION

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Conservation is difficult to define and analyse. Yet, there are concerns common to all who "practice" conservation. One common concern has to do with notions of resources adequacy. How much do we have? How long will it last? Will we run out? Another focuses on the allocation of resources to accomplish alternative tasks, e.g., should we develop mineral or water resources, croplands or highways, protect wildlife or facilitate recreation activities?

This paper describes an inquiry into the attitudes of a group of Oklahomans toward these two concerns, the scarcity of resources in the United States during the coming decade and the allocation of land for different types of use. In particular, attention is focused upon the spatial aspects of Oklahoman conservation attitudes. This examination provides insights into the conservation perceptions of the citizenry of this state, as well as offering some measure of explanation for these perceptions. In addition, an attempt is made to indicate how these patterns of conservation attitudes are relevant to resources education, planning, and administration, and to geographical inquiries into regionalism.

During the fall of 1969, an Oklahoma State University class administered 110 interviews to a relatively unstructured sample of students at the University. The results of this initial survey prompted further inquiry. An improved questionaire was written. It contained questions on the respondent's occupation and recreation participation, in addition to questions dealing with resources. It was subsequently administered to approximately 222 university students; 80 in an introductory geography course, and 142 in an introductory American history course. From these, 209 usable questionnaires were obtained. An additional 64 interviews were obtained from a group of Eastern Michigan University students. The results of all interviews were tabulated by graduate assistants in the Department of Geography at Oklahoma State University.

Oklahoma students expressed concern about the prospects of resources scarcity in the next decade (Table 1); 60% expected

TABLE 1. *Responses of Oklahoma State University Students.*

A. Do you believe the U.S.A. is likely to face scarcities in these resources by 1980?

Resource	Very scarce (%)	Some scarcity (%)	Slight scarcity (%)	No scarcity (%)
Lumber	16	43	34	7
Coal	12	46	29	13
Iron	8	37	33	22
Oil	4	23	40	33
Water	24	39	25	12
Land	26	33	27	14
Food	6	24	26	44

B. Do you believe enough land in the U.S.A. has been set aside for these uses?

Use	Too much (%)	Enough (%)	Almost enough (%)	Not enough (%)
Timber production	2	25	41	32
Wildlife protection	1	20	33	46
Highways	14	50	21	13
Wilderness	3	24	26	47
Parks	2	28	44	26
Playing fields	1	35	35	29

N = 209

that, by 1980, some scarcities in lumber, coal, water, and land would be experienced. Yet, a large group appeared to be convinced that in the case of food, oil, and iron, there would be no or only slight scarcities.

Student responses to the allocation section of the questionnaire were less divergent. With few exceptions, there was no consistently strong feeling that we, as a society, are either over- or under-allocating land to specific uses. The exceptional response in the case of highway land (enough, too much) is especially noteworthy, as is the relatively strong opinion that we are not setting aside enough land for wildlife protection.

Factors which explain such responses are obviously complex. Certainly, part of the

explanation lies with misinformation on the present allocation of land or future resource prospects. In some cases, especially food and water, responses are consistent with the impressions currently conveyed by the news media. On the other hand, it can be hypothesized that such opinions are the product of a variety of factors known to shape behavior and attitudes. Such factors include characteristics of the respondents themselves, their socio-economic background, age, vocational inclinations, and experience. Local philosophies or local experiences with resources, are suspected as being significant in shaping regional differences in attitudes.

Table 2 provides a striking contrast with Table 1. It is apparent that in some respects

TABLE 2. *Responses of Eastern Michigan University students.*

A. Do you believe the U.S.A. is likely to face scarcities in these resources by 1980?

Resource	Very scarce (%)	Some scarcity (%)	Slight scarcity (%)	No scarcity (%)
Lumber	14	62	18	6
Coal	5	45	30	20
Iron	2	26	49	23
Oil	9	41	30	20
Water	28	36	24	12
Land	26	39	24	11
Food	4	30	22	44

B. Do you believe enough land in the U.S.A. has been set aside for these uses?

Use	Too much (%)	Enough (%)	Almost enough (%)	Not enough (%)
Timber production	0	23	37	40
Wildlife protection	0	11	24	65
Highways	28	50	12	10
Wilderness	2	9	24	65
Parks	2	4	30	64
Playing fields	2	14	28	56

N = 64.

Michigan students are similar to their Oklahoma contemporaries. Pessimistic views concerning the near-term adequacy of lumber, coal, water, and land resources are remarkably close, as are the optimistic perceptions toward food availability. In terms of views of adequacy for the next decade, differences between the two groups appear to be greatest in the cases of two non-renewable resources, oil and iron. The slightly more pessimistic views of Michigan students towards oil adequacy, and the comparatively greater pessimism of Oklahoma students as to iron supply undoubtedly are associated with the relative importance of the two resources to the respective economies of the two states.

Greater differences are seen in the allocational attitudes of the two student bodies. Michigan students believe that considerably greater allocation should be made in almost all categories tested. Timber production, wildlife protection, wilderness areas, parks and playing fields all would receive greater emphasis in the land use if the Michigan opinion prevailed. The exceptional attitudes towards highways which are held by the Oklahomans appear to be the same and even stronger among Michigan students.

The spatial patterns of responses by location of residence within Oklahoma also deserve attention. Views towards resources adequacy show some region-to-region variation (Table 3). Here students appear to be

TABLE 3. *Responses of students by location of residence.*

	Oklahoma State University students				Michigan students (%)
	Tulsa - OKC corridor[1] (%)	N. & W. Okla. (%)	S. & E. Okla. (%)	Out-of-state (%)	
"No scarcity"					
Lumber	5	6	22	8	6
Coal	15	13	21	17	20
Iron	23	28	31	27	23
Oil	19	25	28	21	20
Water	21	8	20	13	12
Land	15	16	15	15	11
Food	39	41	47	42	44
"Not . . . enough"					
Timber production	32	28	21	42	40
Wildlife protection	60	50	41	63	65
Highways	10	15	14	5	10
Wilderness	52	20	39	63	65
Parks	39	17	14	31	64
Playing fields	38	20	7	39	56
N =	90	46	29	44	64

[1] Tulsa-Oklahoma City corridor includes Rogers, Tulsa, Creek, Okmulgee, Okfuskee, Seminole, Lincoln, Pottawatomie, Oklahoma, Cleveland, McClain, Grady, and Canadian Counties.

more optimistic or pessimistic depending upon their residential proximity to specific resources. Thus, students from the south and east appear to regard scarcities in lumber, coal, and oil less likely than those from other regions of the state. Those from the

northern and western parts of the state are understandably more concerned about water availability in the future. These patterns seem to be analagous to the Michigan-Oklahoma differences in attitudes towards iron and oil.

Attitudes towards the allocation of land seem to reflect urban or rural residence. Students living in cities, or more densely populated portions of the state, differ markedly from their brethren from more sparsely populated areas. Those favoring greater allotments of land to open space of all types, wildlife, timber production, wilderness, parks, and playing fields, come predominantly from the Oklahoma City-Tulsa Corridor. In more rural areas, land for such use is readily available and, therefore, it is regarded as adequate. The association of urbanization with open-space preferences appears to be confirmed by the responses of Oklahoma State University students who are out-of-state residents (primarily from large cities), as well as the Michigan students who were overwhelmingly from the densely populated southeastern part of their state (Table 3). The consistently greater urbanite antipathy towards greater allocations of land for highways is also noteworthy here.

An initial hypothesis of this study was that conservation attitudes were related to respondent characteristics, for example that socio-economic background or participation in certain types of recreational pursuits would influence attitudes towards the allocation of land for parks. However, no clear relationship was found between socio-economic, college major, college class-standing, or recreational-pursuit variables and responses to either the scarcity or allocational sections of the interview. Nor was there any significant tendency for respondent characteristics to be correlated with regions.

Rather, there seems to exist a spatial dimension to conservation attitudes which reflects proximity to resources in the case of attitudes towards future adequacy or scarcity, and extent of urbanization or level of population density insofar as land allocation preferences are concerned.

Of course, this limited sample cannot be construed to be representative of students in general or the population as a whole. On the other hand, one might hypothesize with some justification that actual regional differences in the population tend to be much greater than those elicited from the students, due in part to the tendency towards conformity found within the student community. In any event, the differences among students are real and have important ramifications. In the realm of resources planning and legislation, continuing resistance on the part of rural residents to increasing public open space may be expected. Further, we can probably expect increased resistance to the use of large amounts of land for highways, especially among urban dwellers. If careful deliberations suggest greater needs for these types of land use, special care must be taken to insure public acceptance.

For educators, such findings mean that adjustments in conservation curricula are in order. It would appear that the Oklahoma student is generally under-estimating the potential for resource scarcity in this country. In spite of recent oil strikes, and success with low-grade iron ores, the prospects for maintaining adequacy over the long run are not bright. Even more alarming is the response to a question which suggests that Oklahoma students regard air and water pollution as a problem peculiar to the urban northern, northeastern, and western parts of the United States. The implications of such views are serious, and immediate steps should be taken to correct such misconceptions.

In addition, adjustments in conservation education curricula to account for regional differences in attitudes should be undertaken. Conservation education, appropriate to small town or rural farm students, may be entirely inappropriate to urban students who have measurably different preconceptions about resources adequacy and allocational priorities. The teaching of rural students should also take into account the increasingly urban life they will undoubtedly lead.

To geographers, such findings reaffirm the existence and importance of regionalizing forces in attitudes and perceptions. Clearly here is a fertile field for continuing geographical inquiry.