

**TRUST IN NATURAL RESOURCE INFORMATION
SOURCES AND POSTMATERIALIST VALUES:
A COMPARATIVE STUDY OF U.S. AND CANADIAN
CITIZENS IN THE GREAT LAKES AREA**

BRENT S. STEEL

Washington State University—Vancouver

NICHOLAS P. LOVRICH

JOHN C. PIERCE

Washington State University—Pullman

ABSTRACT

This study examines the relationship between postmaterialist value orientations and trust in natural resource information sources among Canadian and U.S. citizens. The data stem from mail surveys collected among residents in metropolitan areas on the Great Lakes. Findings suggest that individuals with *postmaterialist* value orientations are significantly less trusting of traditional sources of natural resource information (e.g., government and private industry) than are their compatriots with materialist value orientations. In addition, Canadians are found to be generally more trusting of government information sources and less trusting of private information sources than are their American counterparts. Thus, the trust accorded an information source depends on the source itself, the value orientation of the individual according that trust, and the political culture of the country in which the information source and the individual are found.

Canada and the United States are democratic nations which have moved into the stage of societal development commonly referred to as “postindustrial.” Such societies are characterized by economic dominance of the tertiary sector over that of manufacturing, complex nationwide communication networks, an extensive role for the knowledge industry and the application of high technology, an enlarged public sector role, and historically unprecedented affluence and high

educational levels among the populace [1-3]. A number of prominent scholars argue that the advent of postindustrial society has resulted in systematic changes in values held among citizens—particularly among younger cohorts—such that “higher order” needs (vis-a-vis Maslow’s need hierarchy) have supplanted more fundamental subsistence and security needs (e.g., shelter, etc.). Value changes entailing greater attention to “postmaterialist” needs are thought to have brought about changes in many citizens’ attitudes toward favoring the preservation of natural resources and the protection of the natural environment [4]. Indeed, many surveys of public opinion have suggested that large numbers of people now consider themselves to be “environmentalists” or environmentally conscious [3, 5, 6].

Concomitant with the rise of environmental consciousness in postindustrial society has been the growing complexity of many contemporary natural resource and environmental issues [7, 8]. Complex scientific and technical information has become increasingly important in understanding public policy tradeoffs in many natural resource policy arenas, giving support to the time-worn adage that “knowledge is power” [9, 10]. Command of technical information and specialized knowledge have become increasingly important aspects of decision-making on public policies and central sources of political power in natural resource politics [11]. As Clague has suggested: “. . . information is a source of control. It is also a source of understanding, learning, and participation” [12, p. 38].

The combination of a heightened concern for the environment and a growing importance of specialized knowledge concerning natural resource policy issues gives particular salience to the relationship between citizens’ values and the level of trust they accord to both official and nongovernmental information sources. Samuel Huntington, for example, early on warned that as newer generations among the postindustrial democratic citizenries become better educated and more knowledgeable concerning public policy issues they will develop “deep feelings of frustration” and become cynical toward the established economic and governmental elites [2, p. 177]. With respect to postmaterialists, then, it could be expected that they would differ from their compatriots holding more materialist value orientations in *distrusting established sources* (e.g., government agencies and industry) of information on natural resource issues. Instead, environmental groups, industrial and governmental whistleblowers, Naderesque critics of the establishment and other unconventional sources of information would be viewed with favor. Aaron Wildavsky, in agreement with Huntington, has more recently argued that the value changes associated with the advent of postindustrial society have given rise to a form of “radical egalitarianism” which inappropriately undermines established economic and governmental authority and seriously misdirects public attention from the true tasks and challenges lying before it [13]. He argues further that the press and knowledge industry generally are permeated with these elite challenging values (citing [14, 15]) and thereby provide far greater access to

postmaterialist viewpoints than is either deserved or healthy for social governance [3, pp. 115-132].

In this context, then, the three major purposes of this article are: 1) to identify variations in the trust citizens accord sources of natural resource information; 2) to determine whether citizens holding postmaterialist values do indeed trust traditional natural resource information sources less than do citizens holding other values; and 3) to find out if such value-based differences in trust are equally apparent in two culturally distinct political settings—the American and the Canadian.

CROSSNATIONAL CONSIDERATION

Trust in information sources concerning environmental or natural resource issues may be importantly affected by the prevailing beliefs and values of a nation's political culture. Such cross-national effects have surfaced in recent studies of U.S./Canadian natural resource policy issues [16]. Studies comparing the political cultures of Canada and the United States note significant differences in political beliefs and values which have been argued to have existed since the founding period of the United States [17-19]. Canadian political culture is generally considered to be more organic, statist, particularistic (group oriented) and collectivist in nature than is American political culture [19]. American political culture tends to reflect a Lockean individualistic conception of society, and public policy in the United States is largely shaped by pervasive, widely-held political values that stress the free enterprise system, individualism, respect for property rights and distrust of government [20-22].

As a consequence of these cultural differences, Americans are likely to be more suspicious of governmental information sources than are their Canadian counterparts. In turn, American citizens may be more trustful of private sector information sources (e.g., business, developers) than are their northern neighbors. Moreover, the higher regard held for governing institutions among Canadians generally may blunt the effects of postmaterialist value holding for Canadian citizens. Unlike Americans already culturally inclined to distrust government officials and government authority over private choices, Canadians are inclined to place greater faith in government and its agents. The impact of postmaterialist values on trust in informational sources may be less powerful among Canadian than among American citizens.

On the other hand, postmaterialism may surface as a crossnational force which transcends culture leading to convergence—particular among younger cohorts [23]. Therefore Canadians and Americans with postmaterial values may share distrust for traditional sources of natural resource information and show more trust for sources which challenge the established sources—such as environmental groups.

METHODOLOGY AND MEASUREMENTS

In 1989, a mail survey of 4,000 citizens was conducted in the Province of Ontario and the eight states which border the Great Lakes (i.e., Michigan, New York, Pennsylvania, Ohio, Indiana, Illinois, Wisconsin, and Minnesota). The sample was drawn from cities located within thirty miles of the Great Lakes and connecting rivers/waterways—excluding the St. Lawrence Seaway. The total population for cities sampled was approximately 20,124,033 (14,909,565 in the United States and 5,214,468 in Canada). Since 74.1 percent of the target population is located in the United States and 25.9 percent is located in Canada, 4,000 surveys were sent to potential respondents in the U.S. ($n = 2,964$) and Canada ($n = 1,036$) in accordance with the proportion each country contributed to the entire population.

Four population categories of cities were used to draw the sample: 1) 24,000 to 50,000; 2) 50,001 to 100,000; 3) 100,001 to 250,000; and 4) cities with populations of 250,001 or more. The number of potential respondents selected from cities in each size category was determined by calculating its proportion of the total provincial/state population in cities of at least 24,000. Potential respondents were chosen at random from municipal telephone directories within the target cities. The response rate for the four-wave survey was 66 and 68 percent for Canada and the United States, respectively. The questionnaire was designed and administered according to procedures outlined in [24].

Dependent Variables

Respondents were asked to indicate their level of trust in the natural resource information sources listed in Table 1. The thirteen sources of natural resource information include government sources, business, environmental groups and several quasi-governmental sources such as public utilities and universities. The specific question was:

Some groups may supply technical information about natural resources and the environment. How much trust do you have in the technical information supplied by each of the groups listed below?

The response categories provided were: (1 = None; 2 = Not much; 3 = Some; and 4 = A great deal). While many citizens, including the well-educated and knowledgeable, may not be able to adequately judge the accuracy of information from competing sources, the level of trust accorded to each source is important given the highly technical nature of natural resource issues in postindustrial society. Regardless of the accuracy of the information given, if citizens do not trust the specific information source then other competing sources may have more legitimacy and thus clout in the public relations battle concerning natural resource management issues.

Table 1. Canadian and American Public Trust in Information Sources
Concerning Natural Resource Issues

	Canada mean (s.d.)	U.S.A. mean (s.d.)	T-Test
Government Sources:			
Provincial/State Government	3.12 (.66)	2.32 (.69)	3.48**
Federal Government	3.14 (.85)	2.35 (.79)	4.36**
Local Government	2.31 (.89)	2.41 (.75)	-2.56*
Government Scientific Experts	3.31 (.75)	3.36 (.71)	-1.57
Private Sources:			
Business	1.62 (.70)	2.07 (.74)	-14.03***
Developers	1.34 (.54)	1.73 (.75)	-14.24***
Farmer Groups	2.72 (.83)	2.89 (.72)	-4.79***
Fishing Industry	2.82 (.80)	2.88 (.76)	-1.79
Timber Companies	1.45 (.63)	1.79 (.73)	-11.55***
Labor Unions	1.96 (.82)	1.81 (.74)	4.03**
Environmental Groups	3.43 (.68)	3.42 (.66)	0.11
College/University Educators	3.28 (.83)	3.29 (.68)	-0.30
Public Utilities	1.84 (.75)	1.91 (.74)	-2.05
	<i>N</i> ≥ 643	<i>N</i> ≥ 1893	

T-test significance levels: * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Independent Variables

The measure of postmaterial values employed here was developed by Ronald Inglehart [3, 25, 26]. The Inglehart measure posits four possible national goals: 1) maintaining order in the nation; 2) giving people more say in important governmental decisions; 3) fighting rising prices; and 4) protecting freedom of speech. Respondents were asked to designate which *two* goals are most important to them as national priorities. Individuals choosing the first and third statements (maintaining order and fighting rising prices) are classified as "materialists," and those respondents picking the second and fourth priorities (more say in governmental decisions and protecting freedom of speech) are labeled "postmaterialist."

It is this second pairing of values that is said to have evolved from the affluence and security of postindustrialism and, therefore, should be associated with distrust of traditional (establishment) sources of natural resource information. Respondents choosing one materialist value and one postmaterialist value as their most important priorities were considered to have a "mixed" value system.

Three dummy variables assessing materialist (1 = materialist, 0 = else), mixed (1 = mixed, 0 = else), and postmaterialist value orientations (1 = postmaterialist, 0 = else) were created for use in the multivariate analyses reported later. While Inglehart's indicator has come under criticism in recent years for inadequately measuring postmaterialist or "new" values (see [27]) in other studies it has been found to be a robust indicator of new political values accompanying advanced industrial society [28, p. 75].

Several control variables are employed to account for potential intervening effects of individual differences in background, including each individual's age (in years), a dummy variable for gender (1 = female, 0 = male), a scale indicating formal educational attainment, and a self-assessment measure of general political orientation. The educational attainment question was "Your highest level of education?" with the following response categories: 1) Never attended school; 2) Some grade school; 3) Completed grade school; 4) Some high school; 5) Completed high school; 6) Some college; 7) Completed college; 8) Advanced degree. The political orientation question was "How would you place yourself on the following ideological scale in your country?" The Likert response format ranged from (1 = Very left (Canada)/Liberal, United States to 7 = Very right (Canada)/Conservative United States).

While the major purpose of the multivariate analyses is to examine the impact of postmaterialist values while controlling for other factors, several of the control variables may be significantly related to trust in information sources. Given previous research conducted in the area of natural resource and environmental values, we would expect younger cohorts, women, the highly educated and liberals/leftists to be more distrustful or traditional sources of natural resource information (e.g., business, timber and fishing industry, developers) than their older, male, less educated and conservative counterparts (see [6, 23, 29]).

FINDINGS

Table 1 examines variation between Canada and the United States in terms of trust for the various natural resource information sources. We have grouped information sources into two general categories including governmental sources and private information sources. Canadian respondents, as suggested earlier, are more trusting of national and provincial/state level official sources, but slightly less trusting of local government sources than are Americans. Particularly notable is that Americans' trust of both state and national governments is about three quarters of a point (on a 4-point scale) *lower* than corresponding Canadian ratings of trust in provincial and national governments. This substantially overall lower rating fits with the observation of a widely noted culturally based American distrust of government; such distrust clearly is much less pronounced in the Canadian results, and squares with the communitarian, pro-government strain in that country's political culture.

The level of trust of "private" information sources is generally higher among Americans than Canadians. Specifically, American respondents are substantially more trusting of information from business, developers and the timber industry than are Canadians. However, two information sources (labor unions and environmental groups) are trusted more by Canadians than by Americans (the first comparison's difference is statistically significant). No significant differences obtain between U.S. and Canadian citizens in relation to the last two informational sources which are *indirectly* related to government—college and university educators and public utilities. In both countries, however, the first group is among the most trusted sources, while the second—public utilities—is among the least trusted source of natural resource information. Overall, then, we find important interaction between the trust of particular information sources and the culture of the country in which that source is found.

Table 2 displays mean trust scores for the various sources of natural resource information controlling for postmaterial value orientations. Materialists in Canada evaluate provincial and federal government significantly higher than do postmaterialists. In addition, both materialists and mixed value types are much more trusting of government scientific researchers than are postmaterialists.

In the U.S., in contrast, there was no significant difference across value types for the federal and state levels of government, and only a small difference (as predicted) for local government. It should be noted, however, U.S. postmaterialist ratings of government sources are lower across the board than are those of Canadian postmaterialists. The American distrust of government appears to have a more blunting effect upon postmaterialist value holding than does Canadian regard for government and its agents.

The lowest private source trust score evident in Table 2 is that given by American postmaterialists to business sources. In fact, for most private sources—with the important exception of environmental groups—*postmaterialists in both countries rate private sources lower than do materialists* (all of these relationships are statistically significant with the exception of labor unions).

Trust of environmental groups as sources of natural resource information is rated highly by all three values types in both national settings. Postmaterialists, however, are significantly more trusting than are those with mixed and materialist value orientations. Clearly the role of environmental groups as sources of natural resource information in postindustrial society is very important to citizens.

Among quasi-government sources, materialists in both countries are less trusting of college/university educators than are postmaterialists and those with mixed values. For public utilities, Canadian materialists are significantly more trusting than are their postmaterialistic counterparts. No significant differences are evident in the United States, however, with all value types distrusting public utilities as an information source on natural resource and environmental issues.

Table 2. Values and Trust in Natural Resource Information Sources: Analysis of Variance Results

	Canada			United States		
	Mat	Mixed	Post	Mat	Mixed	Post
Government Sources:						
Provincial/State Government	3.65	3.27	3.06***	2.27	2.33	2.34
Federal Government	3.20	3.15	3.01*	2.42	2.35	2.34
Local Government	2.50	2.48	2.43*	2.56	2.39	2.38*
Government Scientific Experts	3.42	3.46	2.50***	3.52	3.35	3.22**
Private Sources:						
Business	2.95	1.42	1.27***	2.56	2.00	1.13***
Developers	2.45	1.38	1.18***	2.10	2.10	1.33**
Farmer Groups	2.80	2.87	2.60*	3.01	2.88	2.87*
Fishing Industry	3.05	3.02	2.65**	2.98	2.76	2.73*
Timber Companies	2.21	1.68	1.45**	1.82	1.71	1.65*
Labor Unions	2.00	1.95	1.90	1.91	1.90	1.87
Environmental Groups	3.04	3.42	3.62**	3.20	3.31	3.60**
College/University Educators	3.00	3.26	3.49**	3.11	3.28	3.38*
Public Utilities	2.44	1.92	1.75***	1.91	1.90	1.87
<i>N</i> ≥	120	206	204	283	986	440

F-test significance levels: * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Generally, postmaterialist ratings for *private* sources are very similar in both countries. Nonetheless, ratings of trust in government sources by postmaterialists are considerably higher in Canada than in the United States. This cross-national comparison reflects the general differences in political culture separating Canadians and Americans—whereby Canadians are more trusting and supportive of governmental institutions than are their southern neighbors and this culturally based trust mutes the effect of postmaterial values.

Multivariate Analyses

Logistic regression models were developed to examine the extent to which postmaterialist values affect trust in natural resource information while controlling for several demographic and ideological variables. Because the response categories for the dependent variables are restrictive, and the frequency distributions are highly skewed for most of the information sources, response categories were dichotomized. Respondents reporting that they have “some” or “a great deal” of trust in an information source were given a “1,” and those saying they had “none” or “not much” trust were given a “0.”

For the logistic regression models presented in Table 3 and 4, the coefficient of a particular variable indicates the effect of the variable on the likelihood of trusting a particular source of information. As discussed earlier, a series of dummy variables are used for the postmaterialist value indicator. Logistic regression procedures require that one dummy must be omitted for the prediction equation to be estimated. The dummy variable representing "mixed" values is the omitted category.

The logistic regression models presented in Table 3 assess level of trust in natural resource information sources for Canadian respondents. For all but one of the models presented (i.e., government experts), the goodness-of-fit chi-square statistic is not significant, meaning that the specified structure constitutes an acceptable model in the statistical sense.

In the Canadian sample, when controlling for the independent effects of age, gender, education, and ideology, *postmaterialists are significantly different from other value types for ten of the thirteen information sources*. For government sources, compared to other value types, Canadian postmaterialists are significantly less trusting of provincial and federal government sources, government and scientific experts, public utilities, business, developers, the fishing industry, and timber companies. Canadian postmaterialists are significantly more trusting of college/university educators and environmental groups than are their mixed and materialist value type compatriots.

The logistic regression models presented in Table 4 investigate the level of trust in natural resource information sources for the U.S. sample. The goodness-of-fit chi-square statistic is not significant for any of the models presented. *For eleven of the thirteen information source items presented, American postmaterialists are significantly different from their mixed and materialist counterparts*. Similar to the bivariate relationships displayed in Table 2, postmaterialists are significantly more trusting of college/university educators and environmental groups when controlling for age, gender, education, and ideology. Postmaterialists are significantly less trusting of government scientific experts, public utilities, business, developers, farmer groups, timber companies, labor unions, and state and federal governments. As suggested earlier, U.S. postmaterialists are significantly less trusting of many establishment sources of natural resource information than are individuals with mixed and materialist value orientations.

A series of logistic regression models also was run for each information source controlling for the national origin of each respondent (dummy variable: 1 = Canada, 0 = United States). The results indicate that when controlling for the various socioeconomic and value variables, significant cross-national differences are still evident. Similar to the *t*-test results presented in Table 1, Canadians are more trusting of national and provincial/state sources than are Americans. Among the various private source of information, Americans are significantly more trusting of business, developers and the timber industry than are Canadians.

Table 3. Logistic Regression Estimates for the Predictors of Trust in Natural Resource Information Sources—Canada

	Age Coeff. (s.e.)	Gender Coeff. (s.e.)	Educ. Coeff. (s.e.)	Mat Coeff. (s.e.)	Postmat Coeff. (s.e.)	Ideology Coeff. (s.e.)
Government Sources:						
Provincial Government $\chi^2 = 517.04; n = 527$ % classified = 68.5	-.01* (.006)	-.17 (.21)	-.13 (.03)	.37 (.49)	-.42* (.18)	.44** (.07)
Federal Government $\chi^2 = 507.80; n = 509$ % classified = 64.6	.08 (.07)	-.03 (.07)	.20** (.06)	.23 (.47)	-.57** (.20)	.16** (.06)
Local Government $\chi^2 = 527.98; n = 527$ % classified = 62.0	.004 (.006)	.22 (.18)	-.02 (.06)	.07 (.07)	.12 (.17)	.13* (.05)
Government Sci. Experts $\chi^2 = 635.63***; n = 527$ % classified = 94.1	.01 (.02)	-1.31** (.46)	-.03 (.17)	4.51** (.70)	-1.13** (.41)	.22 (.14)
Private Sources:						
Business $\chi^2 = 456.84; n = 527$ % classified = 91.6	.05** (.009)	-.32 (.32)	-.27** (.09)	5.52** (.11)	-1.08** (.38)	-.40** (.11)
Developers $\chi^2 = 410.62; n = 509$ % classified = 83.7	.31** (.10)	-.54* (.22)	.73 (.82)	.91** (.10)	-1.18** (.33)	.13 (.14)
Farmer Groups $\chi^2 = 516.48; n = 523$ % classified = 74.2	-.01** (.006)	-.41* (.21)	-.06 (.07)	-1.10* (.48)	-.17 (.21)	.05 (.06)
Fishing Industry $\chi^2 = 417.17; n = 527$ % classified = 75.5	.01 (.08)	-.40* (.20)	-.83** (.13)	.14 (.18)	-1.21** (.24)	.06 (.07)
Timber Companies $\chi^2 = 486.44; n = 527$ % classified = 90.7	-0.7** (.01)	-.81* (.38)	.22 (.14)	.34 (.34)	-1.24** (.40)	-.17 (.12)
Labor Unions $\chi^2 = 496.34; n = 527$ % classified = 77.4	-.05 (.07)	-.70** (.21)	.22** (.08)	.19 (.18)	-.17 (.21)	-.14* (.07)
Environmental Groups $\chi^2 = 395.25; n = 527$ % classified = 97.7	-.08* (.03)	2.94** (.98)	.16 (.24)	-.64 (.53)	2.23* (1.10)	.16 (.13)
College/University Educators $\chi^2 = 477.16; n = 498$ % classified = 91.2	.04** (.02)	3.06** (.59)	.55** (.11)	-4.40** (.79)	3.28** (.96)	-.77** (.13)
Public Utilities $\chi^2 = 497.13; n = 517$ % classified = 84.5	-.02** (.001)	-1.76** (.29)	-.02 (.09)	.66 (.49)	-.75** (.29)	.01 (.08)

Significance levels are: * $p \leq .05$; ** $p \leq .01$.

Table 4. Logistic Regression Estimates for the Predictors of Trust in Natural Resource Information Sources—United States

	Age Coeff. (s.e.)	Gender Coeff. (s.e.)	Educ. Coeff. (s.e.)	Mat Coeff. (s.e.)	Postmat Coeff. (s.e.)	Ideology Coeff. (s.e.)
Government Sources:						
State Government	-.04 (.03)	-.61** (.10)	-.20** (.05)	.02 (.08)	-.26* (.11)	.02 (.03)
$\chi^2 = 1687.9; n = 1691$ % classified = 76.9						
Federal Government	.01** (.003)	-.04 (.10)	.05 (.05)	.08 (.23)	-.37** (.11)	.17** (.03)
$\chi^2 = 1700.7; n = 1703$ % classified = 69.85						
Local Government	-.01** (.006)	-.78** (.10)	-.02 (.06)	.07 (.07)	.12 (.17)	.13* (.05)
$\chi^2 = 1600.1; n = 1690$ % classified = 93.2						
Government Scien. Experts	-.10* (.05)	-.62** (.11)	.16* (.08)	.46** (.15)	-.28** (.06)	.18 (.14)
$\chi^2 = 1603.2; n = 1686$ % classified = 90.2						
Private Sources:						
Business	.001 (.004)	-.49** (.12)	-.07 (.06)	.38** (.06)	-.58** (.15)	.35** (.04)
$\chi^2 = 1639.2; n = 1673$ % classified = 73.9						
Developers	.01** (.002)	-.29* (.14)	-.43** (.07)	.56* (.22)	-.85** (.21)	.08 (.05)
$\chi^2 = 1698.2; n = 1659$ % classified = 86.5						
Farmer Groups	-.03** (.004)	-.74** (.12)	-.12* (.06)	.13 (.15)	-.33** (.04)	-.04 (.04)
$\chi^2 = 1719.9; n = 1672$ % classified = 74.6						
Fishing Industry	-.01** (.003)	-.40** (.11)	-.14** (.05)	.07 (.15)	.05 (.12)	.01 (.01)
$\chi^2 = 1672.7; n = 1677$ % classified = 77.6						
Timber Companies	.01 (.04)	.04 (.14)	-.18** (.07)	.61** (.21)	-.45* (.18)	.31** (.05)
$\chi^2 = 1620.6; n = 1694$ % classified = 85.7						
Labor Unions	.01 (.005)	-1.05*** (.16)	.001 (.07)	-.80** (.26)	-.38* (.16)	-.16** (.05)
$\chi^2 = 1750.2; n = 1694$ % classified = 87.0						
Environmental Groups	-.04** (.006)	.21 (.21)	.24** (.09)	.33** (.10)	.29** (.04)	-.24** (.07)
$\chi^2 = 1876.4; n = 1703$ % classified = 92.7						
College/University Educators	-.05** (.007)	-.32 (.22)	.65** (.09)	.28 (.29)	.46** (.12)	-.24** (.08)
$\chi^2 = 1689.9; n = 1686$ % classified = 83.7						
Public Utilities	.04 (.04)	-.84** (.14)	-.46** (.07)	.07 (.18)	-.15** (.02)	.35** (.05)
$\chi^2 = 1710.1; n = 1690$ % classified = 83.7						

Significance levels are: * $p \leq .05$; ** $p \leq .01$.

SUMMARY AND CONCLUSION

This research has examined the relationship between postmaterialist value orientations and trust in natural resource information sources for samples of Canadian and American citizens living within cities in the Great Lakes region. We observed a clear differentiation in the trust accorded various sources of natural resource policy information. Moreover, we find a clear interaction between traditional political culture and "new politics" postmaterial value orientations. Thus, in both the Canadian and American settings individuals with postmaterialist value orientations are significantly less trusting of traditional sources of natural resource information (i.e., government and private industry) than are their counterparts with mixed and materialist value orientations. At the same time, Canadians are generally more trusting of government information sources and less trusting of many private information sources than are their American counterparts with those same value orientations.

Environmental groups are generally the most trusted source of natural resource information in both countries for all three value orientation types. There may be support in these findings for Lester Milbrath's [6] contention that environmentalists are a possible "vanguard for a new society." The broad base of trust for environmental groups may portend a "greening" of postindustrial America and Canada. As for the contention that the "new values" will give undue regard for the necessities of governance in the postindustrial society, these results also suggest that the postmaterialists in both countries will indeed demand accountability from both the government and the private sector. It is not known yet whether demands for information and greater regard for environmental protection will be excessive or prophetic for democratic governance. However, traditional sources of information on natural resources will continue to be tested, and their efforts to re-establish public trust will confront a citizenry suspicious of their motives and claims.

REFERENCES

1. D. Bell, *The Coming of Postindustrial Society*, Basic Books, New York, 1973.
2. S. Huntington, Postindustrial Politics: How Benign Will it Be?, *Comparative Politics*, 6(January), pp. 163-191, 1974.
3. R. Inglehart, *Culture Shift in Advanced Industrial Society*, Princeton University Press, Princeton, 1990.
4. M. A. Steger, J. C. Pierce, B. S. Steel, and N. P. Lovrich, Political Culture, Postmaterialist Values, and the New Environmental Paradigm: A Comparative Analysis of Canada and the United States, *Political Behavior*, 11, pp. 233-254, 1989.
5. *Gallup Report*, Environment Regaining a Foothold on the National Agenda, Report No. 285, Princeton, New Jersey, June 1989.

6. L. Milbrath, *Environmentalists: Vanguard for a New Society*, State University of New York Press, Albany, 1984.
7. D. Nelkin, Science, Technology, and Political Conflict: Analyzing the Issues, in *Controversy: Politics of Technical Decisions*, D. Nelkin (ed.), Sage, Beverly Hills, California, pp. 9-11, 1979a.
8. D. Nelkin, Scientific Knowledge, Public Policy and Democracy: A Review Essay, *Knowledge: Creation, Diffusion, Utilization*, 1(September), pp. 106-122, 1979b.
9. J. C. Peterson (ed.), *Citizen Participation in Science Policy*, The University of Massachusetts Press, Amherst, Massachusetts, 1984.
10. J. Kuklinski, D. Metlay, and W. D. Kay, Citizen Knowledge and Choices on the Complex Issue of Nuclear Energy, *American Journal of Political Science*, 26, pp. 615-642, 1982.
11. J. C. Pierce, and N. P. Lovrich, *Water Resources, Democracy and the Technical Information Quandary*, Associated Faculty Press, New York, 1986.
12. M. Clague, Citizen Participation in the Legislative Process, in *Citizen Participation: Canada*, J. A. Draper (ed.), New Press, Toronto, 1971.
13. A. Wildavsky, *The Rise of Radical Egalitarianism*, The American University Press, Washington, D.C., 1991.
14. S. R. Lichter, S. Rothman, and L. S. Lichter, *The Media Elite: America's New Powerbrokers*, Adler and Adler, Bethesda, Maryland, 1986.
15. S. Iyengar and D. R. Kinder, *News That Matters: Television and American Opinion*, University of Chicago Press, Chicago, 1987.
16. B. Steel and D. Soden, Acid Rain Policy in Canada and the United States: Attitudes of Citizens, Environmental Activists, and Legislators, *The Social Science Journal*, 26, pp. 27-44, 1989.
17. R. Gibbins and N. Nevitte, Canadian Political Ideology: A Comparative Analysis, *Canadian Journal of Political Science*, 18, pp. 577-598, 1985.
18. G. Horowitz, Conservatism, Liberalism, and Socialism in Canada: An Interpretation, *Canadian Journal of Public Policy*, 32, pp. 143-171, 1966.
19. S. M. Lipset, Canada and the United States: The Cultural Dimension, in *Canada and the United States: Enduring Friendship, Persistent Stress*, C. Doran and J. Sigler (eds.), Prentice Hall, Englewood Cliffs, pp. 109-160, 1985.
20. K. Dolbeare and L. Medcalf, *American Ideologies Today*, Random House, New York, 1988.
21. K. Dolbeare, *American Public Policy: A Citizen's Guide*, McGraw Hill, New York, 1982.
22. H. McCloskey and J. Zaller, *The American Ethos: Public Attitudes Toward Capitalism and Democracy*, Harvard University Press, Cambridge, 1984.
23. Pierce et al., 1992.
24. D. A. Dillman, *Mail and Telephone Surveys: The Total Design Method*, John Wiley and Sons, New York, 1978.
25. R. Inglehart, *The Silent Revolution: Changing Values and Political Styles among Western Publics*, Princeton University Press, Princeton, New Jersey, 1977.
26. R. Inglehart, The Silent Revolution in Europe: Intergenerational Change in Post-industrial Societies, *American Political Science Review*, 65, pp. 991-1017, 1971.

27. Inglehart and Flanagan, 1992.
28. B. Steel, R. Warner, N. Lovrich, and J. C. Pierce, The Inglehart-Flanagan Debate over Postmaterialist Values: Some Evidence from a Canadian-American Case Study, *Political Psychology*, 13, pp. 61-77, 1991.
29. P. Mohai, Men, Women and the Environment: An Examination of the Gender Gap in Environmental Concern and Activism, *Society and Natural Resources*, 5:1, pp. 1-19, 1992.

Direct reprint requests to:

Pro. Brent S. Steel
Department of Political Science
1812 E. McLoughlin Blvd.
Washington State University at Vancouver
Vancouver, WA 98663-3597