North Branch Potomac

Public Opinion Survey

by

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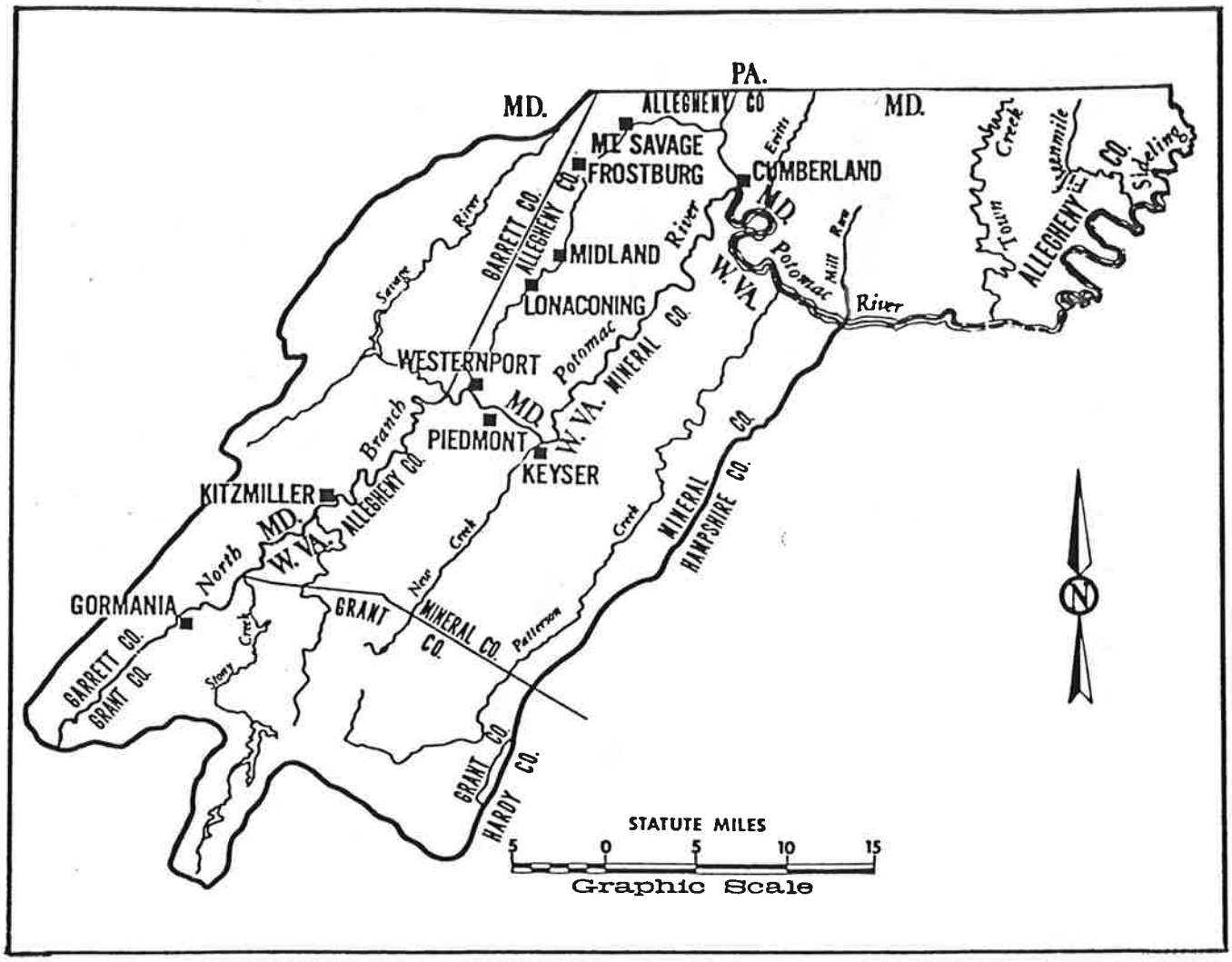
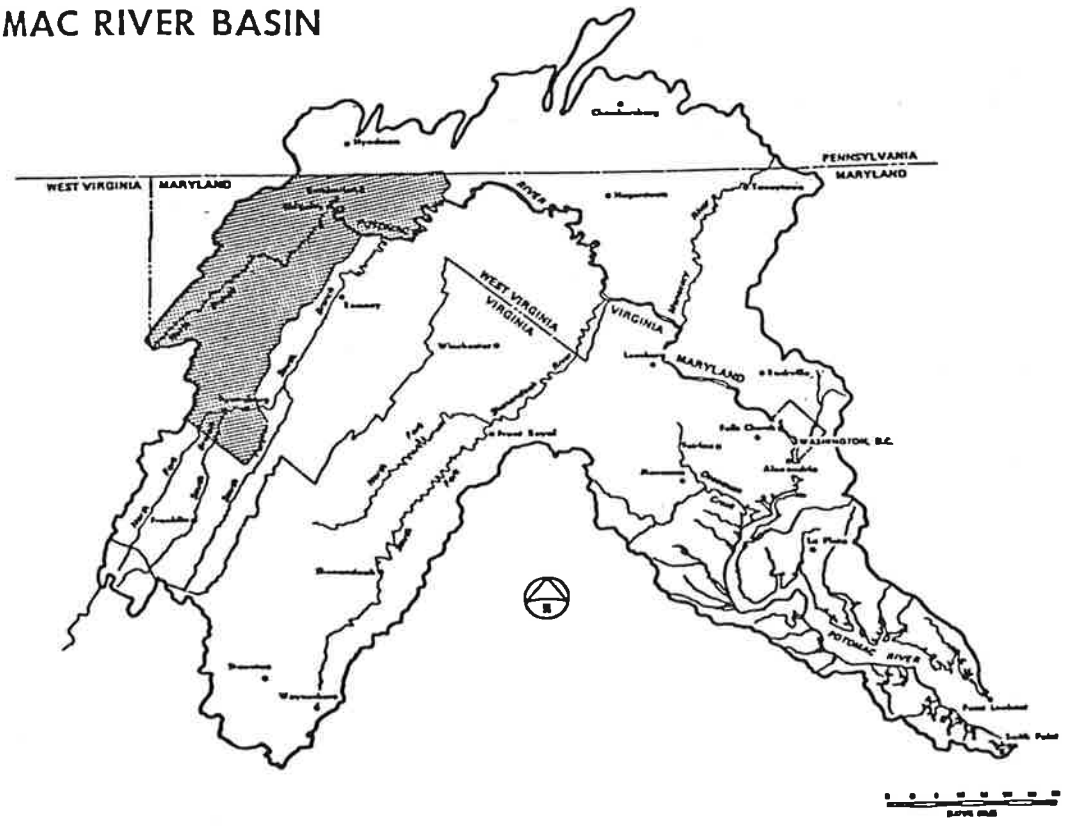
The Survey Area: Grant and Mineral counties, W.Va., and Garrett and Allegany counties, Md.



POTOMAC RIVER BASIN



CONTENTS

EXECUTIVE SUMMARY

The North Branch Public Opinion Survey was implemented primarily to provide the Interstate Commission on the Potomac River Basin (ICPRB) and others with an improved appreciation of the attitudes and preferences on environmental issues of people living in the uppermost portion of the Potomac River basin. Sensitivity to the attitudes and perspectives of citizens living within the basin is crucial to effective Commission public education/information efforts, a key agency focus.

The survey was a telephone survey carried out by 43 volunteers, primarily students and faculty members from Potomac State (West Virginia) and Frostburg State (Maryland) colleges. The survey was conducted over a six-week period in the spring of 1985. A 50% response rate was achieved, with 352 questionnaires completed as a result.

The characteristics of the sample population from the North Branch Potomac area's four counties: Garrett and Allegany in Maryland, and Grant and Mineral in West Virginia, are generally comparable to the characteristics identified in the 1980 U.S. Census. Sample characteristics of male/female distribution, years of school completed, percentage of labor force, and income generally correspond with some differences. The most noticeable difference is that the sample median age is somewhat higher than the population median age.

The belief that most people's sense of geographical location is narrow--that their sense of living in a watershed is minimal--is reflected in the survey results. Even though many respondents placed a value on the North Branch Potomac, and roughly half say they live within 10 miles of it and find it easily accessible, and, furthermore, have creeks near their homes, few identified the direction of the river's flow or the location of the Potomac's mouth.

The respondents gave the North Branch Potomac water quality a somewhat better rating than the actual river monitoring data warrants. Half of the respondents rated the North Branch Potomac's water quality "Fair" or "Good," while technical water quality monitoring data analysis and judgements of professionals rank the water only in the "Poor-Fair" range. While many are familiar with the term "acid mine drainage" and acknowledge it as a serious water pollution problem, the survey responses reflect that the respondents are not sufficiently familiar with the nature of it. The respondents seem to be generally aware of whom to contact when confronted with most water pollution problems, but appear to need more information on flooding and soil erosion. While many of the respondents were familiar with, and had visited Bloomington Lake, the reason for its construction and its significant impact on the water quality of the North Branch was not clear to them. The responses also suggest that the public is not generally aware of the multiple-benefits of water projects. The responses confirm that Bloomington Lake is an under-utilized resource.

At the time of the survey, the respondents ranked the economy as the most serious of concerns, with environmental concerns ranking second in importance, particularly stream/river pollution resulting from acid mine drainage. Over half of the respondents believe environmental problems should be solved by a combination of local, state and federal governments. Most of the respondents stated that they believe the government should spend the same or more on environmental problems.

Fishing, swimming, camping and hiking, and hunting are the preferred recreational activities for the respondents. More than half of them pursue recreation activities within the county where they live. The majority of them believe that recreational opportunities should be for the benefit of resident and non-resident alike.

Half of the respondents rely on television for most of their news, and the average viewing time for just under half of them ranges between 2-3 hours. Just under half of the respondents read one of the two Cumberland newspapers.

The general conclusion drawn from the survey is that future environmental education efforts should be aimed at: (1) clarifying the specific problems of the nature of acid mine drainage and soil erosion, as well as improving the public's general understanding of the watershed in which they live and its relationship to the Chesapeake Bay; (2) disseminating more information on which agencies to contact when confronted with water pollution problems, in particular flooding and soil erosion problems; (3) promoting improved awareness, value, and utlization of Bloomington Lake; (4) improving the understanding of the various options, costs and benefits of enhanced recreational opportunities in the area. Environmental education efforts should be aimed primarily at the area's television audience, but use of the local radio and newspapers should not be discounted.

INTRODUCTION

● Public Involvement

"A Guide to Citizen Participation in Natural Resources Planning and Management,"* reiterated these important points: (1) It is axiomatic that in a democratic system, the government should be responsive to the will of the people; (2) government can only respond to the extent that people express their economic, social, and environmental needs and preferences.

While the ballot box remains the key mechanism for the expression of the public's will, it is not the only available mechanism, nor is it always the most effective one. The limitations of the ballot box are evident in assessments of communication between the public and the non-elected executive branch of government known collectively as the bureaucracy. The awareness of the need for and desirability of public participation in executive agency decision-making hit a high point in the 1970s. It became a significant consideration in federal programs. Public participation, for example, was legislatively mandated in the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500), also known as the "Clean Water Act." The legislation called for public participation "in the development, revision and enforcement of any regulation, standard, effluent limitation, plan or program" of the U.S. Environmental Protection Agency (EPA). Public hearings and meetings, advisory councils and committees have become a normal part of the executive decision-making process.

A public opinion poll can be a useful tool as well, enabling a government agency to gain an improved appreciation of the public's attitudes and preferences. Polls and attitudinal surveys should not be considered as public participation efforts in themselves however, since they are essentially one-way communications between citizens and government agencies. Also, the caveat should be given that the results of surveys and polls must be accepted with some care, since they can be easily manipulated unless conducted in an unbiased manner and according to accepted professional standards to protect objectivity. The purpose of the poll, the sample size, and the questions asked are crucial considerations. Caveats aside, public opinion surveys can be helpful "temperature gauges," and several have been used to focus on Chesapeake Bay region citizen environmental priorities in the last few years.

● ICPRB Public Education Efforts

For the Interstate Commission on the Potomac River Basin (ICPRB), established by compact in 1940, education to effect government accountability and encourage public involvement is a primary function. The key mechanisms used by the Commission to communicate with the public are its free newsletter, the

"Potomac Basin Reporter" (some 10,000 subscribers), special general and technical publications, and its public meetings. Unlike its technical meetings, the Commission's public meetings (usually held annually), are part of the agency's educational program. The meetings are designed to have substance sufficient for both technician and "environmentalist," as well as to bring the average citizen up-to-date about the problems and accomplishments that relate to the Potomac River, its basin and water resources. The meetings are not only designed for the dissemination of information, but also to provide for public comment.

ICPRB held a public meeting, "The Challenge of the North Branch," in the upper Basin at Potomac State College, in September, 1981. The meeting was held to coincide with the dedication of the Bloomington Lake and Dam. Built by the U.S. Army Corps of Engineers, the reservoir and dam were vital elements in the solution of the metropolitan Washington area's water supply problem until approximately 2030, as well as providing flood control and water quality benefits in the Potomac's North Branch area.

● The North Branch Potomac River

Gilbert Gude, the former Congressman and longtime supporter of the Potomac, focused on the North Branch Potomac Valley in a recent book, Where the Potomac Begins.** He describes the first 50 miles from the river's source at Fairfax Stone as a "Brigadoon world--a misty green valley of Allegheny coal country, lumber towns, company coal towns, and ghost towns,"..a relatively remote area of poignant tales born of good times and bad, boom and bust. This ruggedly beautiful area, where the historic Potomac River begins as a trickle before it finally reaches its 383-mile destination of the Chesapeake Bay, is markedly different from the basin's sweeping Shenandoah Valley, the rolling and hard Piedmont foothills, and the low-lying tidal Coastal Plain.

The North Branch Potomac is one of the most historic stretches of the entire river, and one George Washington knew well as a surveyor. It forms the border between West Virginia and Maryland, cutting through the Appalachian Mountains and four counties, first Grant (West Va.) and Garrett (Md.), then Mineral (West Va.) and Allegany (Md.) counties. It is, unfortunately, an abused portion of the Potomac. Within a thousand feet of the source of the Potomac (established by King Charles I in 1632 as the westernmost boundary of Maryland), the river is dealt a lethal dose of acid pollution, the legacy of two centuries of a search for coal. The amounts of coal mined in the region have been small-to-modest on a national scale, but the abandonment of no longer productive and leaking mines has left a sizeable problem. The acid, produced when water and oxygen interact with coal, is not only a problem in itself but masks other problems such as organic waste contamination.

Acid mine drainage is the reason why there are few fish in an estimated 700 miles of streams in the North Branch basin, and is the single greatest barrier to recreational use of North Branch Potomac waters. A 1969 study estimated that 79,000 pounds of acid per day were contributed to the North Branch by streams within the State of West Virginia, and 39,000 pounds per day by Maryland streams. During the low flow periods, the acid can become concentrated and cause the water to be as acidic as vinegar, circumstances which highlight the value of the diluting effect of releases from the Bloomington Reservoir.

Acidic water, however, is not the only important upper Potomac basin water quality consideration. Sediment and the nutrients that are transported by it are among the main concerns of the Cheseapeake Bay cleanup effort. The Potomac River has been identified as a major contributor to the Bay system of both. The biggest source of Potomac sediment comes from above the Fall Line, or above Washington, D.C. It has been estimated that 50-million tons of sediment are eroded yearly. Most of it remains above the Fall Line, stored on hillslopes, flood plains, and in channels, though, in an average year, the tidal Potomac receives about 1.5 million tons. Slugs of sediment can leave the storage areas above the Fall Line during storm events. The November 1985 storm known as Hurricane Juan, sent an estimated 500,000 tons of sediment over the Fall Line into the tidal Potomac and the Chesapeake Bay system. Soil erosion, therefore, shares notoriety with acid mine drainage as an upper Potomac drainage basin concern.

*Citizens Council for a Clean Potomac, Potomac Heritage Conference. October, 1975.

**Gude, Gilbert. Where the Potomac Begins. A History of the North Branch Valley. Seven Locks Press. 1984.

PURPOSE AND PROCEDURES

●The Project Decision

Initially, an ICPRB publication to follow up on the 1981 ICPRB Fall Public Meeting, "The Challenge of the North Branch," was planned. Due to other commitments, however, the publication had not been initiated by early 1984. At that time, some doubt was expressed in that a publication might not be the most effective use of the public education funds available. The Commission decided to ask some appropriate people in the North Branch area, specifically, some educators from Potomac State College (West Va.) and Frostburg State College (Md.), what suggestions they might have for the best use of the funds. The result of a meeting with seven upper Potomac basin educators in the spring of 1984 at Potomac State College, was the suggestion of a public opinion survey to serve as a substitute for a publication. Public opinion polls are expensive, labor-intensive efforts requiring professional expertise. Since, however, the poll was suggested by a group of Potomac basin citizens, and since there was an enthusiastic consensus among them, the Commission decided to make every effort to implement the proposal. While the prime responsibility for planning and implementation of the project remained with the Commission, specifically with its public education specialist, the seven educators served in an essential advisory capacity throughout the project.

During the summer of 1984, the purpose of the project was clarified. The purpose of the public opinion survey was defined as a planning tool for environmental education purposes. While primarily for ICPRB educational purposes, the project was designed to be of use to other agencies with similar environmental concerns. Specifically, the survey purpose was to examine public perceptions in the North Branch Potomac area relative to water resource management concerns, including, but not limited to, acid mine drainage. The major purposes of the survey were defined as:

a. To explore the public's perception of space as it relates to the watershed in which they live, their sense of geographic location, or "sense of place."
b. To assess the importance of the Potomac River (North Branch) to the public, the role the river plays, if any, in the lives of those who live and work near it.
c. To establish the degree to which the public perceives water pollution as a problem, to gauge how the public prioritizes it in relation to competing social and economic concerns.
d. To determine the extent to which the public understands water pollution, and the quality of water in their area.

e. To estimate the current and potential recreational activity in the North Branch Potomac area by residents, their preferences among recreation alternatives, and their attitudes toward tourism as a local industry.
f. To explore public attitudes toward regional cooperation and the public's concept of the Potomac River and its tributaries as shared resources.
g. To examine the public's view of the decision-making process used to solve environmental problems--the role of the citizen, the roles of the private and public sectors, who should bear the cost and how.
h. To assess preferred educational methods.

●Project Challenge

The real challenge of the project was the fact that public opinion surveys are expensive--a labor-intensive survey of the type suggested can run as high as $40,000 or more. The Commission had a budget of $2,400--the amount allocated for a small publication. The overriding considerations were the origination of the idea in the upper Basin and the apparent enthusiasm for it. Since the Commission's expertise does not include public opinion polling, and since objectivity was desirable, the Commission decided to allocate the bulk of the limited funds to professional public opinion survey expert advice. This meant that the limited balance of funds would not cover the data gathering, or actual interviewing by professionals. The obvious conclusion was to design a project in which volunteers, particularly students, would be used. The author managed the project for the Commission, and a portion of the limited funds were set aside for reimbursements to volunteers for any phone or postage expenses incurred. An agreement was reached with the teachers in the advisory group that incentives would be used to encourage student participation--that their efforts would fit in with their science class requirements and that they would get academic credit for them. The survey was scheduled for the spring of 1985, over a six-week period between late April and May. This period was chosen as it was close to Earth Day/Week activities and prior to heavy academic pre-examination demands. A contract was signed with a professional survey consultant associated with the Survey Research Center of the University of Maryland in the fall of 1984. This was essential in order to define and schedule all the steps in the survey process.

●The Process

With the purpose of the opinion survey clarified and a date for the project set, an advisory planning committee established, and expert assistance arranged for, the next step was to refine the process and schedule. This step included the elaboration of

a "research" design, the type of sample and size, the questionnaire design, the practical questions of interviewer recruitment and training, plus the plan for the editing and coding of the responses obtained, their analysis, and the final product: the project results and report. It was decided to use a telephone survey as opposed to one by mail (too low a response rate--10-15%) or personal interviews (90-95% response rate but highly time-consuming and labor intensive). A response rate of 75% was anticipated for the proposed telephone survey.

During the fall and winter, the focus was on promoting the project and refining the questionnaire. Promotion of the project was critical in order to interest prospective volunteer interviewers in addition to the college students, but also to be courteous to the community that would be interviewed--to let them know that "strangers" would be likely to phone them with questions, and to strengthen the possibility of the project providing an adequate data base. Sought were sixty volunteers who would obtain 15-20 useable interviews by phone, each running about 20 minutes in length. It was hoped to obtain a sample size of 400-600 people.

The author met with a variety of community and government agency people in the counties to be surveyed in the fall. Announcements of the survey were also distributed to all libraries and some local civic organizations. The survey project was announced also in the October, 1984 issue of the "Potomac Basin Reporter," and press releases announcing the project soliciting volunteers were sent out to area media in November, 1984 and February, 1985. The questionnaire underwent four drafts during this period, with both ICPRB staff and the advisory planning committee participating. It was subjected to a pre-test, and then finalized in January, 1985.

During the first quarter of 1985, with the final questionnaire in hand, the training manual for the prospective volunteers was prepared. This was largely based on materials provided by the Survey Research Center. A public information meeting, sponsored by the Commission, was planned. The meeting, held March 30 at Potomac State College, was attended by 70 people, the majority of whom were students from Potomac State and Frostburg State colleges. The purpose of the meeting was a combined one, to provide information about the environmental status of the area and the specific problem of acid mine drainage, plus to serve as a training session for interviewers.

The environmental status portion of the meeting focused on "Historical Aspects of the North Branch," "Establishing Water Quality Standards--How Do We Do It?,""Definitions as Impediments to Solving the Problem of Acid Mine Drainage," "The Role of the Reclamation Division," and "The Perspective from the (West Virginia) Field." Key agency representatives from both West Virginia and Maryland participated. The training session for interviewers was conducted by the Survey Research Center consultant. Time and logistics were project constraints. For example, the training portion of the meeting was a 2 1/2 hour session that normally is designed for at least a day or more.

Forty-three people, primarily students and faculty members of the Potomac State and Frostburg State colleges, agreed to volunteer as a result. Prior to the time the telephone interviewing was to begin in mid-April, additional "training" efforts were made via telephone by the author. All volunteer interviewers were phoned at least once, usually twice. They all received their packets which included the questionnaire and the phone numbers to be called before April 15.

●Sample Characteristics

The sample was selected from the telephone books for each county--Allegany and Garrett counties in Maryland, and Mineral and Grant counties in West Virginia. Since a portion of Garrett County, Md. is not in the basin, phone numbers from that part of the county were excluded. The sample was selected by first deciding on the proportion of the total population each county represented. Respondent telephone numbers were then chosen at random; starting with an arbitrarily selected position at the beginning of the telephone book, numbers were chosen at equal intervals (i.e., every nth name) until a complete sample was available. A sample of 709 was selected, with interviewers assigned a list of 15 respondents in their own county (or as close as possible). During the six-week survey period, interviewers phoned from their homes at their convenience.

Of the total number of 709 questionnaires mailed to interviewers, 352 questionnaires were completed. These completed interviews give a response rate for the survey of 50%. (The response rate is the number of completed interviews divided by the total number of eligible numbers--taking out the disconnected or commercial numbers.) Although this response rate is not as high as we would like or as might have been achieved with professional interviewers (usually a 75%-80% response rate), the participation and experience of the volunteer interviewers was worth the sacrifice. For many of these people, it was an opportunity to work not only with the Commission in an area of interest but also an opportunity to interact directly with the citizens of the area and to gain valuable experience in the related field of public opinion research. While about half of the 43 people who had volunteered to interview did not participate in the survey, those who did participate did a good job interviewing. One problem with inexperienced interviewers is that they feel the need to decide which questions they should ask rather than going through the interview as instructed. The North Branch Survey interviewers, however, generally appeared to be faithful to the instructions because most of the questions were answered by each the respondents.

The survey responses were coded and statistically analyzed during the summer of 1985 by Marland Survey Research Center staff using descriptive frequency distributions. These were

then converted to percentage distributions. The latter were interpreted by the ICPRB author.

The characteristics of the sample population were compared to characteristics of the population of the four counties in Tables 1-4. The sample population is roughly representative of what we have defined as the North Branch population. Two counties were slightly under-represented relative to their populations (Mineral and Allegany), and one county (Grant) was slightly over-represented. Table 2 shows that the male/female characteristics of the sample corresponded closely with the total North Branch population, though the sample median age was somewhat higher. The years of school completed in the sample population corresponded closely with those of the North Branch population (Table 3). The percentage of sample population in the labor force (44%) closely corresponds with that of North Branch population in the 1979 work force (45%) (Table 4). The income levels of the sample appear to be higher than those of the North Branch population (Table 4).

COMPARISON OF SAMPLE CHARACTERISTICS WITH THOSE OF NORTH BRANCH* POPULATION AS A WHOLE
(Based on 1980 U.S. Census)

OTABLE 1: Population

County	# Pop.	% of Total No. Branch Pop.	Sample Respondents	% County Res. in Sample
Allegany	80,548	56%	157	45%
Garrett	26,498	18%	89	25%
Grant	10,210	7%	74	21%
Mineral	27,234	19%	31	9%
			1	
	144,490	100%	352**	100%

**No county ascertained for 1 respondent

OTABLE 2: Sex and Age

County	M	F	Median Age
Allegany	47%	53%	35
Garrett	49%	51%	30
Grant	50%	50%	31
Mineral	49%	51%	31
Total	48%	52%	
Sample	43%	57%	44

*Allegany and Garrett counties in Maryland; Grant and Mineral counties in West Virginia.

OTABLE 3: Education
(Years of School Completed)

County	High School	4 Yrs of College or More
Allegany	59%	9%
Garrett	54%	8%
Grant	45%	8%
Mineral	60%	7%
Sample	49%	9%

OTABLE 4: Employment & Income

County	% Tot. Pop. in '79 Labor Force	Annual Income Less than $7,000	More than $7,000
Allegany	26%	27%	73%
Garrett	8%	27%	73%
Grant	3%	34%	66%
Mineral	8%	27%	73%
Total	45%	27%	73%
Sample	44%	14%	86%

DATA SUMMARIES & CONCLUSIONS

Answers to the questionnaire are summarized in the following, and are grouped according to categories: Sense of Place and Role of the North Branch, Water Quality, Bloomington Lake, Environmental Issues & Priorities/Decisionmaking, Recreation, and Education Efforts.

● Sense of Place and Role of the North Branch
(QUESTIONS 2-12)

36% of the respondents had a general idea of the direction of the North Branch Potomac flow, identifying the river flow as either east or north, and none gave the correct answer of "northeast." Less than half of the respondents (40%) stated that they knew the location of the mouth of the Potomac. Only 17% of the respondents correctly identified its location at the confluence of the Potomac River and Chesapeake Bay in southern Maryland/northeastern Virginia.

Most of the respondents (82%) do not use the North Branch --in spite of the fact that 42% estimated that they lived within 10 miles of it (18% stated that they lived within 2 miles of the North Branch), and many (48%) consider it easily accessible. Only a quarter of those respondents who thought access to the river was easy, thought that it should be improved. Most of the respondents (74%) do not want to live closer to the North Branch Potomac. No negative reason was offered for the latter (i.e. flooding, etc.)--it appeared that most people were happy where they lived, or felt they were close enough to the river. Even though they do not use it, nor want to live closer to it, the respondents have opinions about the river and place a value on it. More than half of the respondents (63%) placed a value on the North Branch--considering it either somewhat or very valuable. The survey data suggest that a few more people--an estimated 10% more respondents would use the North Branch if access were improved. About half (55%) of the respondents have a creek near their homes, but few use it. Those who do use the North Branch primarily fish.

CONCLUSIONS: Even though many respondents placed a value on the North Branch Potomac, and roughly half say they live within 10 miles of it and find it easily accessible, and, furthermore, have creeks near their homes, few identified the direction of the river's flow nor the location of its mouth. The responses are consistent with the general impression that most people's sense of geographical location is narrow, and that their consciousness of living in a watershed is minimal. The North Branch Potomac is head of the second most important tributary to the Chesapeake Bay, and is located in an upper basin in which 50 million tons of sediment each year erode from land above the Fall Line. The survey results suggest that an emphasis should be placed on a watershed perspective in any environmental education efforts in the upper Potomac basin.

NOTE D/K: Don't Know
N/A: Not Ascertained
Percentages given are percentages of total sample unless otherwise indicated.

○How many road miles is the North Branch Potomac from your home? (Q2)

D/K: 32%

The median number of miles for those who answered the question was 8 miles. 42% stated that they lived within 10 miles of the North Branch. 18% of the respondents said they lived within 2 miles of the North Branch Potomac.

○Do you use the North Branch? (If "yes," how?) (Q3)

Yes: 18%
No: 82%

Of the 63 people who said they used it, just under half (22) said they used it for fishing. Other uses given: picnicking (7); swimming (3); canoeing (2); drinking water (1); recreation (3); other (7).

○Some people have said it is easy to get to the North Branch, others have said it is difficult. What about you--Have you found it difficult or easy to get to the North Branch? (Q4)

Difficult:	13%
Easy:	48%
Neither:	9%
Don't Know:	29%
N/A:	1%

○Do you think there should be better access to the North Branch? (Q5)

Yes:	27%
No:	34%
Don't Care:	36%
N/A:	2%

OHow would you rate the value of the North Branch to your community? (Q6)

Very valuable:	26%
Somewhat valuable:	36%
Not valuable:	17%
No opinion:	20%
N/A:	1%

ODo you know in what direction the North Branch of the Potomac flows? (If yes, in what direction?) (Q7)

Yes:	49%
No:	51%

OThe North Branch is the upper stem of the Potomac River. Do you happen to know where the mouth of the Potomac River is? (If yes, where is that?) (Q8)

Yes:	40%
No:	45%
D/K:	14%
N/A:	1%

OWould you like to live closer to the Potomac River? (Why?) (Q9)

Yes:	8%
No:	74%
D/K:	18%

OIs there a creek near your home? (Q10)

Yes:	55%
No:	39%
D/K:	5%
N/A:	1%

ODo you use the creek? (Q11)

Yes:	18%
No:	41%
N/A:	41%*

*Only those answering "yes" to Q10 answered Q11.

O(If you use the creek) How do you use it? (Q12)

Only those answering "yes" to Q10 answered Q12. 18% of the total number of respondents indicated that they used the creek near their home, with half of those using it for fishing.

●Water Quality
(QUESTIONS 19,20,25,26,27,28,29,30)

Half of the respondents (54%) rated the North Branch Potomac's water quality "Fair" or "Good." While most respondents (99%) answered the question as to whether they were familiar with acid mine drainage (56% were familiar with the term), significantly fewer (62%) answered the questions as to whether it should or could be cleaned up. The latter two questions on acid mine drainage got the lowest number of responses from the respondents in the entire survey. Almost all of those who did answer said it should be cleaned up, but a smaller proportion of respondents thought it could be cleaned up. The highest number of "Don't Know" responses (61%) resulted when respondents were asked if Bloomington Lake had improved the water quality of the North Branch. Of those who did answer this question, most said that the project had improved the North Branch.

49% of the respondents' potable water is supplied by the counties, while 38% reported that they depend on wells. 51% of the respondents describe the quality of their drinking water as "Good," while 29% rate it "Excellent," and 16% "Fair." 3% rate their drinking water "Poor." The number of people who said they were supplied water by their county corresponds to number of people who ranked the water "Good." This suggests that the county supplied water may be more consistent in quality and in the "Good" category.

The responses suggest that at least half of the respondents feel confident that they know whom to call on most water problems--bad tasting drinking water, malfunctioning septic tank, and creek or river pollution, but they were less confident about flooding and soil erosion problems. About 60% of the respondents said that they did not know whom to contact about those two problems.

CONCLUSIONS: The respondents gave the North Branch Potomac water quality a better rating than the river monitoring data warrants. (This may be due to an apparent general satisfaction with the potable water supply.) The professional judgements and technical data analysis of the 1982-83 Potomac River Baseline Water Quality Monitoring Network ranks the water only in the "Poor-Fair" range. While some agricultural runoff and raw sewage discharges pollute the North Branch Potomac, the primary reason for its Poor-Fair water quality rating is acid mine drainage from abandoned coal mines. While many are familiar with the term "acid mine drainage," which is primarily responsible for the Poor-Fair status of the North Branch, and although many acknowledge it as a serious water pollution problem, the survey responses reflect that the respondents are not sufficiently familiar with the nature of it. Whereas half of the respondents were confident that they knew whom to call on most water problems, this may be an insufficient number. And, it would appear that more information with regard to whom to contact regarding flooding and soil erosion problems

is particularly desirable. While the respondents' concern for both the problems of soil erosion and flooding seems modest, the enormous amount of sediment that is produced in the upper basin and ultimately deposited in the river as it flows toward the Bay warrants public education in both of these areas. The responses suggest that public education on water quality, focusing on acid mine drainage, soil erosion, and whom to call in relation to water problems is needed.

(Questions 19,20,25,26,27,28,29,30)

ODo you believe Bloomington Lake has improved the water quality of the North Branch? (Q19)

Yes:	29%
No:	8%
D/K:	61%
N/A:	3%

OHow would you rate the quality of the water of the North Branch? Would you say that it is poor, fair, good, or excellent? (Q20)

Poor:	15%
Fair:	28%
Good:	26%
Excellent:	2%
D/K:	28%

OAcid mine drainage is one environmental problem you might have heard mentioned. Are you familiar with acid mine drainage? (Q25)

Yes:	56%
No:	37%
D/K:	6%
N/A:	1%

ODo you believe acid mine drainage should be cleaned up? (Q26)

Yes:	53%
No:	2%
D/K:	7%
N/A:	38%

ODo you believe acid mine drainage can be cleaned up? (Q27)

Yes:	37%
No:	6%
D/K:	20%
N/A:	38%

OWhere do you get your drinking water from? (Q28)

County provides:	49%
Well:	38%
D/K:	2%
N/A:	11%

OWould you describe the quality of your drinking water? Would you say excellent, good, fair or poor? (Q29)

Poor:	3%
Fair:	16%
Good:	51%
Excellent:	29%
N/A:	1%

OI have a list of problems people have mentioned about water. Could you tell me whom you would contact if you had the following problems? (Q30)

Bad tasting drinking water -	Yes:	73%
	No:	27%
Malfunctioning septic tank -	Yes:	52%
	No:	44%
Flooding -	No:	56%
	Yes:	41%
Soil erosion -	No:	59%
	Yes:	38%
Stream, creek, river pollution -	Yes:	55%
	No:	42%

● Bloomington Dam
(QUESTIONS 15,16,17,18,19)

The Bloomington Dam and Lake project was completed after 20 years in 1981, and is a sizeable, and only impoundment of water on the Potomac River. According to the Army Corps of Engineers, Bloomington was designed to provide water quality control, reduce flood damage, and for water supply and recreation--in that order.

Over half of the respondents (65%) were familiar with Bloomington Lake, and just under half (45%) indicated that they had visited the project, primarily to look at the scenery. One of the more interesting survey results was the response to the questions of why the project was built, and whether it had improved the North Branch water quality. While 99% responded to the question as to why the dam was built, half of the respondents (51%) said they knew why, and the other half said they didn't know. When the respondents who indicated they knew the reason for the construction were asked to elaborate, the responses varied--neither water quality control nor recreation were identified as primary reasons. The primary reasons given were flood control (28%), drinking water (9%), and electric power (3%). As mentioned earlier (Water Quality) the highest number of "Don't Know" responses (61%) resulted when respondents were asked if Bloomington Lake had improved the water quality of the North Branch. Of those who did answer this question, most said that the project had improved the North Branch.

CONCLUSIONS: While many of the respondents were familiar with, and had visited Bloomington Lake, the reason for its construction and its significant impact on the water quality of the North Branch as a result of controlled releases was not clear to them. The responses also suggest that the public is not generally aware of the multiple-benefits of water projects. The responses confirm that Bloomington Lake is an under-utilized resource. While it is difficult to infer how much additional use of these resources would be attained on the basis of the responses, the survey data suggest that a 10% increase at a minimum is a reasonable expectation.

OAre you familiar with Bloomington Lake? (Q15)

Yes: 65%
No: 34%
N/A: 1%

OHave you ever visited Bloomington Lake? (Q16)

Yes: 45%
No: 28%
N/A: 27%

OWhen you visited Bloomington Lake, what did you do? (Respondents were offered options) (Q17)

Looked at scenery: 32%
Picnicked: 8%
Fished: 7%
Combination: 6%
Other: 5%
Boated: 4%

ODo you know why the Bloomington Dam was built? (If yes, why?) (Q18)

Yes: 48%
No: 51%
N/A: 1%

ODo you believe Bloomington Lake has improved the water quality of the North Branch? (Q19)

Yes: 29%
No: 8%
D/K: 61%
N/A: 3%

●Environmental Priorities/Decisionmaking
(QUESTIONS 13,14,21,22,23,24)

While the economy was ranked as the most serious of concerns (49% ranked it very serious; 31% ranked it somewhat serious), environmental concerns ranked second in importance (21% ranked them very serious; 46% somewhat serious). Health care, transportation, and recreation were considered less important in that order.

Focusing specifically on environmental concerns, the responses suggest that stream/river pollution and acid mine drainage are ranked as more important than other issues. The other issues were ranked in the following order of importance: toxic waste, waste disposal, soil erosion, water supply and flooding, in that order of importance. The latter two were ranked the least of the problems cited. Related to the rankings for the last two concerns: 80% of the respondents rank their drinking water good (51%) or excellent (29%); less than half of the respondents (38%) reported that their county had suffered flood damage in the last 5 years, and few of that group, 8%, (3% of the total number of respondents) had experienced flood damage in their own homes.

Mentioned earlier (see Water Quality) were the respondents' perceptions of the two environmental problems they ranked as most important: stream/river pollution and acid mine drainage. The respondents gave the North Branch Potomac water quality a better rating than warranted based on river monitoring data. And, while acid mine drainage is, according to scientific data and professional judgements, the most serious water quality problem of the North Branch Potomac (and perceived to be so by 58% of the respondents), significantly fewer respondents would or could answer the questions on whether the problem should or could be solved.

Well over half of the respondents, 67%, believe environmental problems should be solved by a combination of local, state and federal government. 85% believe that the government should spend the same (47%) or more (38%) on environmental problems.

CONCLUSIONS: While there is no question that the economy ranks the most serious of concerns, to be expected in an area with a seriously diminished economic base, environmental concerns continue be important to the respondents, ranking second, particularly stream/river pollution resulting from acid mine drainage. The same amount or more money, from a combination of local, state, and federal government sources, for environmental controls would be supported by the respondents. While support for water quality improvements is indicated in the responses, it would appear that the support is based more on perceptions as opposed to information--and an education effort on water quality, acid mine drainage, and soil erosion would be justified.

(Questions, 13,14,21,22,23,24)

OI'm going to read you a list of areas other people have mentioned as concerns in the county. For each of these concerns, could you tell me whether you consider it a very serious problem, a somewhat serious problem, or not a problem at all? (Q21)

	Very Serious	Somewhat Serious	No Problem	D/K	N/A
Environment:	21%	46%	26%	7%	-
Economy:	49%	31%	15%	5%	1
Health Care:	19%	36%	38%	7%	1
Recreation:	11%	30%	52%	6%	1
Transportation:	13%	33%	48%	6%	1

OI'm going to read you some environmental concerns in your county and ask you to rate them as very serious, somewhat serious, or not serious. If you do not have an opinion, feel free to say so. (Q22)

	Very Serious	Somewhat Serious	No Problem	D/K	N/A
Water supply:	9%	34%	51%	5%	1%
Stream/river pollution:	25%	47%	21%	6%	1%
Acid mine drainage:	24%	34%	21%	21%	1%
Toxic Waste:	14%	22%	37%	26%	1%
Flooding:	9%	31%	53%	6%	1%
Waste disposal:	13%	33%	40%	14%	1%
Soil erosion:	8%	30%	41%	21%	1%

OIn the last five years, has your county suffered from flood or other water related damage? (Q13)

Yes: 38%
No: 61%
N/A: 1%

OWas your home damaged as a result?* (Q14)

Yes: 3%
No: 50%
N/A: 47%

*Only those respondents who answered yes to Question 13 answered Question 14.

- Which level of government do you think has the responsibility for solving environmental problems? (Q23)

Combination:	67%
D/K:	10%
State:	9%
Federal:	8%
Local:	4%
Not Gov't.:	3%
N/A:	1%

- As you know, government must raise revenue through taxes and user charges in order to solve problems. Do you believe government should spend more or less money, or about the same money on environmental problems? (Q24)

More:	38%
Less:	10%
Same:	47%
N/A:	6%

●Recreation
(QUESTIONS 31,32,33)

The respondents' preferences for recreation and leisure activities covered a wide range of interests, but fishing, swimming, camping and hiking, and hunting were given most frequently as preferences, in that order. 31% of the respondents included fishing as one of their three favorite activities, while the responses for swimming, camping and hiking, and hunting were 26%, 19%, and 18% (of the total respondents) respectively. More than half (60%) of the respondents pursue recreation activities within the county where they live, 21% go outside their county for recreation, and for 16% of the respondents, their choice of inside or outside the county for recreation varies. The majority of the respondents (86%) stated that recreational opportunities should be for the benefit of resident and non-resident alike.

CONCLUSIONS: Local attitudes are important with regard to planning recreational/tourist projects. Such activities have been considered to offer a significant potential for expanding the upper basin economy. The fact that most of the respondents pursue recreational activities close to home, the fact that a high percentage of them support area recreational opportunities for both residents and non-residents, and their concern for the economy, offer a favorable climate for enhanced recreation/tourist efforts. The responses from those surveyed suggest that these projects should be geared toward fishing, swimming, camping and hiking, in that order, and that they should be family oriented (74% of the respondents said they have children).

OWhat kinds of things do you like to do for recreation and leisure activities? (Q31)

Fishing:	31%
Swimming:	26%
Camping & hiking:	19%
Hunting:	18%

ODo you usually do those recreational activities in our county, or do you go outside the county? (Q32)

In County:	60%
Outside county:	21%
Depends:	16%
N/A:	3%

ODo you believe recreational opportunities in your county should be for the benefit of residents only, or do you think these recreational facilities should be open to anyone whether a county resident or not? (Q33)

Resident and Non-resident:	86%
County residents only:	8%
D/K:	5%
N/A:	1%

● Education Efforts
(QUESTIONS M1,M2,M3,M4,M5)

More than half of the respondents (60%) read newspapers on a daily basis, with about a quarter of them (24%) reading a newspaper once a week. 44% of the respondents read one of the two Cumberland papers. 2-3 hours of television daily was the average viewing time for 43% of the respondents. Roughly 40% of the respondents were split about evenly between 1,4,5,6-hour periods of television viewing. On an average day, 38% of the respondents said they listened to the radio for 1-2 hours daily, and 7% of the respondents listen for 3-4 hours daily. Over half of the respondents (54%) rely on television for their news, while the balance of them are almost equally divided between newspapers and the radio for their source of news.

CONCLUSIONS: While radio and newspaper efforts should not be discounted, the primary focus for environmental education efforts should be aimed at the television audience.

OHow often do you read a newspaper? Would you say once a day, once a week, several times a month, once a month, or hardly ever? (QM1)

Once a day:	60%
Once a week:	24%
Sev. times a month:	5%
Once a month:	1%
Hardly ever:	9%
N/A:	1%

OWhich newspapers do you read most often? (QM2)

Cumberland Times:	29%
Cumberland News:	15%
Other:	15%
N/A:	13%
The Republican:	11%
Keyser News Tribune:	10%
Washington Post:	3%
USA Today:	2%
Grant County Press:	2%

OOn an average day, how many hours of television do you watch? (QM3)

No. Hrs.	%
3	22%
2	21%
4	15%
1	10%
5	9%
6	8%
0	3%
7	3%
10	2%
Other	3%
N/A	4%

OOn an average day,how many hours do you listen to a radio? (QM4)

No. Hrs.	%
2	21%
1	17%
3	9%
4	7%
0	6%
6	5%
10	4%
8	4%
5	3%
7	2%
9	1%
Other	2%
N/A	19%

OWhere do you usually get most of your news about what's going on in the world today--from the newspaper or radio or television or magazines or talking to people or where? (QM5)

Tv:	54%
Newspapers:	22%
Radio:	18%
Talking to people:	4%
Magazines:	1%
N/A:	1%

APPENDICES

FINAL QUESTIONNAIRE Phone Number_____

March 30, 1985

THE NORTH BRANCH PUBLIC OPINION SURVEY QUESTIONNAIRE

Hello, my name is _____, and I live in_____ County. I have agreed to volunteer to be a telephone interviewer for a survey sponsored by the Interstate Commission on the Potomac River Basin. The purpose of the survey is to discover how people who live in the area of the Potomac River feel about the North Branch of the Potomac River, how they rank water resources problems in their counties, and their recreational preferences. Your responses will be confidential.

May I take a few minutes of your time and ask you questions for the survey? (The survey should take about 15-20 minutes.)

(The wording of the following questions cannot be changed. Circle responses clearly; please write legibly.)

---

1. In which county do you live? (Must be Allegany, Garrett, Mineral or Grant County for the Survey)

---

2. How many road miles is the North Branch Potomac from your home? (best guess is okay)

   1. _____.

   8. Don't know.

---

3. Do you use the North Branch?

   1. Yes-----> How? (Examples are picnicking, fishing, etc. BUT DO NOT PROMPT.)

   2. No

---

4. Some people have said it is easy to get to the North Branch, others have said it is difficult. What about you -- Have you found it difficult or easy to get to the North Branch?

   1. Difficult
   2. Easy
   3. Neither
   4. Don't know--have never been there.

   Comments:

5. Do you think there should be better access to the North Branch?

   1. Yes
   2. No
   8. Don't care

---

6. How would you rate the value of the North Branch to your community?

   1. Very valuable
   2. Somewhat valuable
   3. Not valuable
   8. No opinion

   Comments:

---

7. Do you know in what direction the North Branch of the Potomac flows?

   1. Yes-----> In what direction?

   2. No

---

8. The North Branch is the upper stem of the Potomac River. Do you happen to know where the mouth of the Potomac River is? (Interviewer go beyond a yes or no answer.)

   1. Yes-----> Where is that?

   2. No
   8. Don't know

   Comments:

---

9. Would you like to live closer to the Potomac River?

   1. Yes-----> Why is that?

   2. No-----> Why is that?

   8. No opinion

   Comments:

10. Is there a creek near your home?

1. Yes------> Which creek is that?

2. No------> go to 13
8. Don't know.

---

11. Do you use the creek?

1. Yes-----> go to 12
2. No-----> go to 13

Comments:

---

12. (if #11 is yes) How do you use it?

---

13. In the last five years, has your county suffered from flood or other water related damage?

1. Yes-----> go to 14
2. No-----> go to 15

---

14. Was your home damaged as a result?

1. Yes
2. No

---

15. Are you familiar with Bloomington Lake?

1. Yes
2. No ------> go to 18

---

16. Have you ever visited Bloomington Lake?

1. Yes
2. No

---

17. When you visited Bloomington Lake, what did you do? (Read options and check as many as apply.)

1. Boat
2. Fish
3. Picnic
4. Look at the Scenery
5. Combination
6. Other

Comments:

18. Do you know why the Bloomington Dam was built?
    1. Yes------> Why?

    2. No

---

19. Do you believe Bloomington Lake has improved the water quality of the North Branch?

    1. Yes
    2. No
    8. Don't know

    Comments:

---

20. How would you rate the quality of the water of the North Branch? Would you say that is was poor, fair, good, or excellent? (Circle one)

    1. Poor
    2. Fair
    3. Good
    4. Excellent
    8. Don't know

    Comments:

---

21. Next, I'm going to read you a list of areas other people have mentioned as concerns in the county. For each of these concerns, could you tell me whether you consider it a very serious problem, a somewhat serious problem, or not a problem at all?

	VERY SER	SOMEWHAT	NOT	DK
Environment	1	2	3	8
Economy	1	2	3	8
Health care	1	2	3	8
Recreation	1	2	3	8
Transportation	1	2	3	8

---

22. I'm going to read you some environmental concerns in your county and ask you to rate them as very serious, somewhat serious, or not serious. If you do not have an opinion, feel free to say so.

	VERY SER	SOMEWHAT	NOT	DK
Water supply	1	2	3	8
Stream/river pollution	1	2	3	8
Acid mine drainage	1	2	3	8
Toxic waste	1	2	3	8
Flooding	1	2	3	8
Waste disposal	1	2	3	8
Soil erosion	1	2	3	8

Comments:

23. Which level of government do you think has the responsibility for solving environmental problems? Would you say: (read options)

1. Federal
2. State
3. Local
4. A combination
5. Not the government's responsibility
8. Don't know/no opinion

Comments:

---

24. As you know, government must raise revenue through taxes and user charges in order to solve problems. Do you believe government should spend more or less money, or about the same money on environmental problems?

1. More
2. Less
3. Same

Comments:

---

25. Acid mine drainage is one environmental problem you might have heard mentioned. Are you familiar with acid mine drainage?

1. Yes
2. No-----> go to 28
8. Don't know

Comments:

---

26. Do you believe acid mine drainage <u>should</u> be cleaned up?

1. Yes
2. No
8. Don't know

Comments:

27. Do you believe acid mine drainage can be cleaned up?

1. Yes
2. No
8. Don't know

Comments:

---

28. Where do you get your drinking water from?

1. Well
2. County provides
8. Don't know

Comments:

---

29. How would you describe the quality of your drinking water? Would you say excellent, good, fair or poor?

1. Poor
2. Fair
3. Good
4. Excellent
8. Don't know

I have a list of problems people have mentioned about water. Could you tell me whom you would contact if you had the following problems?

30a. Bad tasting drinking water.
1._____
2. Don't know whom to contact.

b. Malfunctioning septic tank.
1._____
2. Don't know whom to contact.

c. Flooding
1._____
2. Don't know whom to contact.

d. Soil erosion.
1._____
2. Don't know whom to contact.

e. Stream, creek or river has polluted appearance, taste, or odor.
1._____
2. Don't know whom to contact.

I have a couple of questions on recreation:

31. What kinds of things do you like to do for recreation and leisure activities: (Probe for three activities)

    1. _____

    2. _____

    3. _____

    Comments:

32. Do you usually do those recreational activities in your county, or do you go outside the county? (Interviewer: If respondent answers "it depends" -- repeat the question, stressing the word "usually." If respondent still says "it depends," mark #3.

    1. In county
    2. Outside the county
    3. Depends

    Comments:

33. Do you believe recreational opportunities in your county should be for the benefit of residents only, or do you think these recreational facilities should be open to anyone whether a county resident or not?

    1. County residents only
    2. Resident and nonresident
    8. Don't know

    Why is that?

MEDIA QUESTIONS

M1. How often do you read a newspaper? Would you say once a day, once a week, several times a month, once a month or hardly ever?

1. Once a day
2. Once a week
3. Several times a month
4. Once a month
5. Hardly ever

M2. Which newspapers do you read most often ?

M3. On an average day about how many hours of television do you watch?

M4. On an average day, how many hours do you listen to a radio?

M5. Where do you usually get most of your news about what's going on in the world today -- from the newspaper or radio or television or magazine or talking to people or where? (REPEAT IF RESPONDENT GIVES MULTIPLE CHOICES: Which do you use <u>most</u>?)

1. newspaper
2. radio
3. television
4. magazines
5. talking to people
6. other

DEMOGRAPHICS

The last questions are what we call the demographics portion of the survey. They help us verify that we have a representative sample.

D1. In what year were you born?

D2. What was the last grade in school you completed? I'll read you a list and stop me at the correct level. (Read Options)

1. 0-4th grade
2. 5-8th grade
3. 9-11th grade
4. High school
5. Some college
6. College grad
7. Post grad work
8. NA, DK

D3. Do you have any children?

1. No
2. Yes------> How many under 5 years of age?_____

How many 5-12 years of age?_____

How many 13-18 years of age?_____

D4. Are you currently: (Read Options)

0. Employed - full (F) or part time
1. Retired
2. Homemaker
3. Student
4. Unemployed
5. Disabled, handicapped
6. Other

D5. I am going to read from a list of income categories. Stop me at the bracket which applies to your gross family income for 1984.

0. Less than $7,000
1. $7,000-10,000
2. $10,000-13,000
3. $13,000-16,000
4. $16,000-19,000
5. $22,000-25,000
7. above $25,000

D6. INTERVIEWER: Record one, do not ask

1. Male
2. Female

PROJECT EVALUATION

The bottom line in evaluating survey research and the results from any single public opinion poll is how confident we are that the results from our sample represent the opinions or facts in the larger population from which the sample was drawn. Most of us are familiar with the terms "sampling error" and "confidence intervals" as used in newspaper stories detailing public opinion gathered from polling techniques. At the end of the story will appear a phase something like this: "The sampling error for a survey of this size (number of persons interviewed is plus or minus ___% within 95 percent confidence intervals." Or a more lay description is given: "This means that according to the laws of probability, that if all households in the population had been interviewed, we are confident that 95% of the time the results of this survey would not deviate from the answers of the total population by more than plus or minus ___%."

Obviously that is a lot of if, ands, and assumptions. Many survey researchers (including the head of the Roper organization) have argued that the concept of "sampling error" gives a false sense of security to the general public -- that instead of being the disclaimer it was meant to be, it has become an assurance of "correctness".

One of the most important aspects of a data set -- the response rate -- is rarely given in newspaper articles. Simply stated, the response rate is the number of completed interviews which were obtained from the sample selected. In the case of this survey, the response rate was 50% -- we randomly selected 709 households to be interviewed; we were able to obtain the opinions of half of this group (after eliminating disconnected or not-in-service numbers). We do not know if the group we did not contact were "different" in their opinions from the group we contacted. While we feel "confident" that we are representing the population as a whole if the response rate had been higher. It is not that the results we have are "wrong" (or unrepresentative); it is simply that we don't know without more extensive probing into that other 50%. We can, however, look at other characteristics of the population -- age, education, etc. -- to help us evaluate our sample and, by inference, whether the results are representative.

The report includes a comparison to Census Bureau data on characteristics of the population. We see some differences in the population compared to the sample -- the most noticeable being that the sample median age is somewhat higher than the population median age (44 for the sample, mid-thirties for the population). One technique often used in analysis would be to "weight" the data (statistically) to bring this characteristic in line with population demographics.

It is hard to convey to the lay public that many things go into the feeling of confidence we have in survey results -- all of the steps involved in such a research project are important. The question wording, the data collection, the analysis of data and, as important, what we already know about the particular subject we are studying. The results of one public opinion poll (whether in a political campaign or a marketing strategy) must be weighed in the larger context of knowledge of the subject and seen as one step -- following others and leading to others.

When I was asked to evaluate this survey -- is it a "good", "fair" or "poor" survey -- my first response was "of course, its a good survey -- look how much we accomplished with no money and a group of volunteers." I am sure this reflects my background in public organizations and community volunteers. I take a great deal of pride in individuals caring enough about their community and the concerns which affect that community to join together to "do" something positive. (I am not so naive as to think that such efforts are always positive.) So, in evaluating this survey project I looked not only at the technical side of survey research but at whether the positives of the volunteer effort were worthwhile.

First of all, writing the questionnaire forced staff members and volunteers to focus on exactly what they wanted to know about public perception in this geographic region. I'm sure if a second survey is attempted in the future, the process will be even more refined. The whole concept of public perceptions and attitudes" about the Potomac River Basin is becoming more real to us as we look at the results of this survey and begin to ask what they mean to public policy officials and to the people in the region.

Second, a group of volunteers were able to focus their interests and make contact with the general public about this interest. They might be surprised that the general public does not have the same interest or level of knowledge about these topics or they might have confirmed their feelings that more education is needed. Much of what each individual learns in a project like this depends on their own personal experiences before and during. Hopefully, some of the volunteers learned about the process of measuring public opinion.

Thirdly, the results themselves bring other questions into focus. One of the most interesting results to me was the rating of water quality by the respondents when compared to the technical rating given by river monitoring data. Why the discrepancy? Are residents rating the water quality compared to what it used to be, meaning that improvements have taken place, or are they just unaware that the water quality is in the poor-fair range? The answer is probably neither of the above but the question jumps out from the survey results. If that question occurs to me (with little expertise in this substantive area) I am sure there are many others which jump out at those

who are involved with this region and its environmental concerns on a day-to-day basis.

All of these positive things -- focus on public attitudes, volunteer effort, and future directions for investigations -- came out of $2,400 and staff time and involvement. How can that not be good?

Sue Dowden
Field Coordinator
Survey Research Center
University of Maryland

April 28, 1986