

Gary Scott's copy

THE CONSERVATION OF WATER IN MOSCOW, IDAHO:

A SURVEY OF PUBLIC OPINION

by

Gary E. Machlis

and

the class

"Introduction to Sociology"

Summer Session, 1986

Dr. Machlis is Associate Professor of Forest Resources and Sociology at the University of Idaho, Moscow, Idaho 83843. The students are undergraduates enrolled at the University of Idaho. This project was supported by the Departments of Sociology and Forest Resources.

Idaho Water Resources Research Institute
University of Idaho
Moscow, Idaho 83843

September, 1986

*Dist:
Each Council Member
has a copy*

STUDENTS OF "INTRODUCTION TO SOCIOLOGY," SUMMER, 1986

Ann Blom (Moscow, ID)
Todd Brown (Hammett, ID)
John Fahey (Seattle, WA)
Carol Guthrie (Riverton, WY)
Betsy Havey (Spokane, WA)
Terri Hennigar (Harvard, ID)
Kathleen Kenyon (Lewiston, ID)
Dave Knavts (Idaho Falls, ID)
Denise Newton (Madison Lake, MN)
Barb Olson (Wallace & Osburn, ID)
Donna Pfautsch (Lewiston, ID)
Barbara Schnabel (Moscow, ID)

PREFACE

This report has been published by the Idaho Water Resources Institute as a part of its assigned role of information dissemination and education of students. I wish to thank Dr. Machlis and the students of "Introduction to Sociology" for their interest and work in obtaining information to help solve one water problem in the state of Idaho.

George Bloomsburg

Director

TABLE OF CONTENTS

Introduction..... 1
Methods..... 3
Who Responded?..... 5
Survey Results:
 Opinions about Water Quality..... 8
 Opinions on Water Conservation..... 9
 Opinions on Funding.....13
 Citizen's Knowledge of Water Facts.....14
Conclusion.....18
Appendix.....20

Introduction

Water is an essential resource, and the management of water supplies an important function of many city governments. The current situation in Moscow, Idaho is typical of many small cities in the western United States: water is supplied by an underground aquifer, and many people feel that water use has exceeded the use at which the aquifer is being recharged. Hence, there is a growing concern for the development of new water sources, and the conservation of existing supplies.

Such concern is usually expressed by community leaders, newspapers, professionals, academics and government officials, and Moscow is no exception. For example, 7 articles have appeared in the city's local paper since 1984. The problem has been routinely studied, and a bibliography of water-related research cites over 150 engineering and hydrological studies of Moscow's water supply system.

Yet surprisingly little is known about how the public perceives the water supply and the problems associated with its management. The abovementioned bibliography includes not a single study of public attitudes. Are the people of Moscow satisfied with

their water? Do they consider water management an important issue? What water policies would they support? What conservation measures would they support?

These questions are important, for public knowledge and opinions are significant factors influencing what actions a community may take. An unaware or unconcerned citizenry is not likely to support new water management initiatives. Water conservation measures that are unpopular or not well understood are not likely to be successful. Hence the purpose of this study was to:

- 1) document public attitudes concerning Moscow's water supply and water conservation measures,
- 2) describe the public's knowledge of Moscow's water resources,
- 3) provide citizens with a chance to comment on the general issue of water management in Moscow.

A door-to-door survey was conducted during the summer of 1986, and the results prepared for this report. The report is organized into several sections. After the introduction, a brief discussion of the methods used to gather the data is provided. Next, a description of who responded is presented, followed by the survey results. The

results are presented in graph or table form, and briefly described. Finally, an appendix includes a copy of the survey form.

Methods

The survey was restricted to a sample of adults (18 years or older) who were living within Moscow's city limits, and who had been residents for at least six months. Those living in apartments as well as single-family houses were included. People living in the University of Idaho facilities (dormitories, married student housing, fraternities or sororities) were excluded.

Of the included population, a random sample was taken in two steps. First, the city was divided into 42 equal-sized zones, and a random sample of 20 zones was chosen. Next, a sample of homes or apartments was chosen for each of the 20 zones. This was done by consistent intervals along the streets (say every fifth home) so that approximately 20 households were chosen in each zone. The result was a random sample of households, distributed throughout the city.

Interviews were conducted with 24 government officials, professors at the University of Idaho, city managers and civic leaders, in order to learn

what specific questions would be of value. These questions were prepared in draft form, revised, and a final survey form prepared (see Appendix 1 for a copy of the form).

Interviews were conducted during the week of 7-14 July. Interviewers went to each selected house or apartment, and asked the first adult that greeted them to participate. Each interview took approximately 15 minutes. Answers were recorded on the interview form, and the data were analyzed by hand. The graphs were prepared by computer.

The study has several limitations. First, only a sample of resident were interviewed, and statistical tests of confidence were not conducted. We assume that the opinions of our random sample reflect the opinions of the general population. Second, citizens under 18 years old or who had only lived in Moscow a short time were excluded. Third, the survey was conducted during the summer, when water conservation might be seen as more important. Had the survey been conducted during Moscow's rainy months, opinions might have been different. Finally, only a few, general questions were asked; a detailed description of public attitudes was not made. Nevertheless, the results should provide some

insight into how the people of Moscow feel about their water resource.

Who Responded?

A total of 315 households were contacted. At 273 of the households (87%) an adult agreed to participate; 42 individuals (13%) refused. Based on 1980 Census statistics for Moscow, this is a sample of approximately 5% of the city's households.

Figure 1 shows the age of the respondents. A majority (73%) were under 45 years of age, and 13% were over 60.

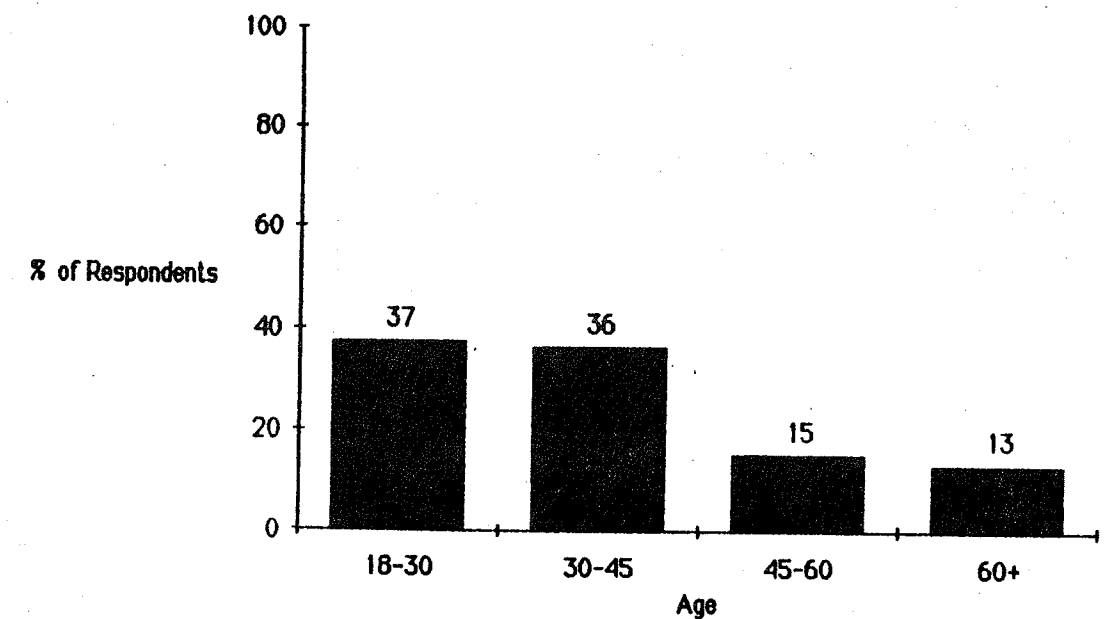


Figure 1. Age of Respondents

Since the water equipment of a household (pipes, faucets, and so forth) may be important in determining attitudes, interviewers attempted to judge the approximate age of the respondent's home. Figure 2 shows the approximate ages. While the majority (54%) of the homes were 5-20 years old, a significant portion (29%) were estimated to have been built before 1966.

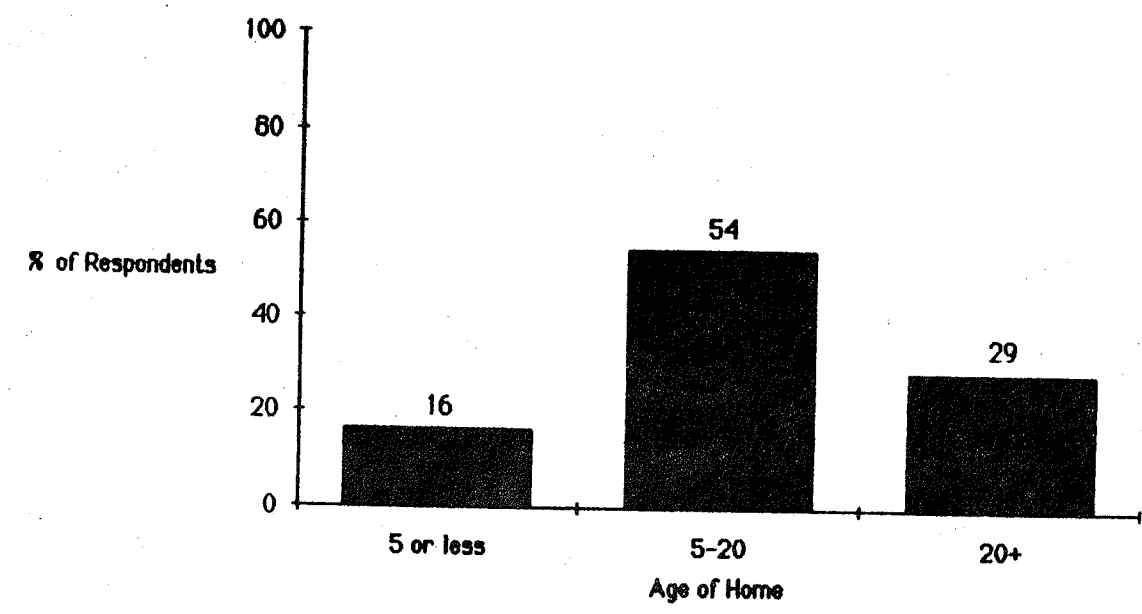


Figure 2. Approximate Age of Homes

Finally, Figure 3 shows that almost a third of the homes (30%) had water-efficient fixtures, such a flow-limiting shower head or toilet. A majority of the respondents ((65%) said their home was not so equipped, and 5% did not know if their homes had water-efficient fixtures.

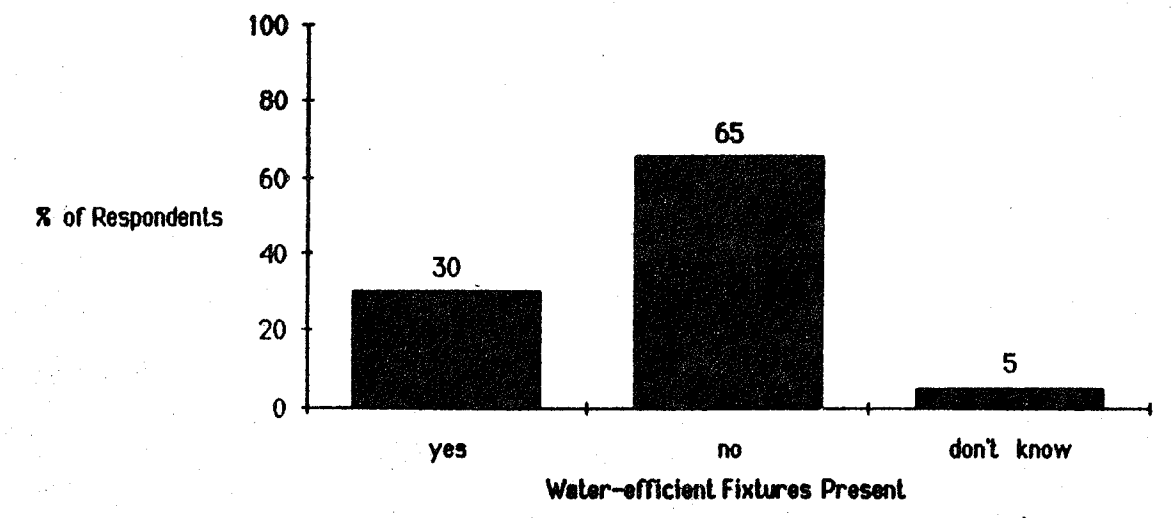


Figure 3. Houses having water-efficient fixtures

Opinions about Water Quality

The citizens of Moscow vary widely in their evaluation of the water supply's quality. Figure 4 shows that 37% rated the water as good, 41% rated it as average, and 22% considered the water to be poor. All expressed some opinion, and comments ranged from positive to negative. The most common comment had to do with the hardness of the water.

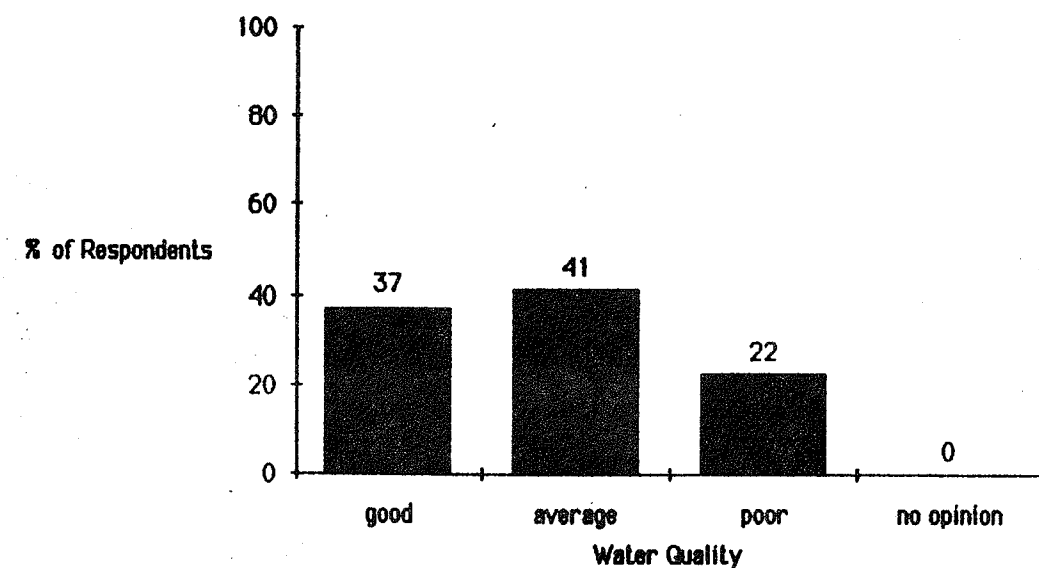


Figure 4. Rating of Overall Quality of Water

One resident commented:

"The water used to taste worse. It's much better since drilling deep wells and filtering has gone on."

Another stated:

"The water makes clothes dingy and it smells bad."

Opinions on Water Conservation

The respondents were asked to rate how serious is the need for water conservation in Moscow. Figure 5 shows that nearly one fourth of the respondents (24%) considered the need to be very serious, and a large majority (72%) considered it very or somewhat serious. Only 14% saw the need as not serious, and a similar number (15%) had no opinion. While the large majority suggests Moscow's citizens feel a need for water conservation, almost a third of the respondents (29%) felt it was not a problem or had no opinion.

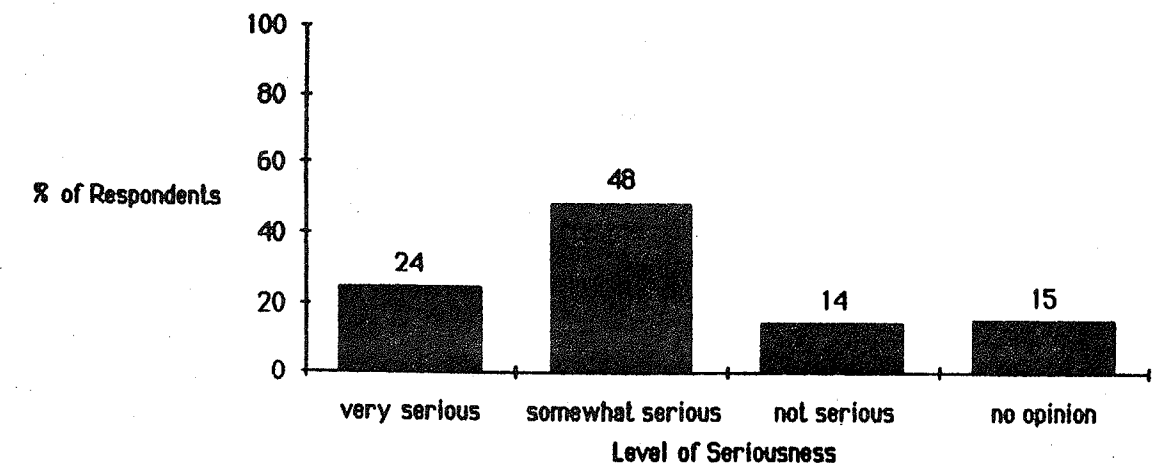


Figure 5. Opinions on the Need for Water Conservation

Comments ranged from general to specific. One resident stated:

"Conserving resources is always good."

Another commented:

"I think the answer is in water-efficient fixtures and appliances."

Not all were aware of the issue. One citizen stated:

"If there is a problem, no one seems to know about it."

These opinions may vary by length of residence. Figure 6 compares respondents who had lived in Moscow less than five years with those that had lived in the city longer than that. Long-term residents saw

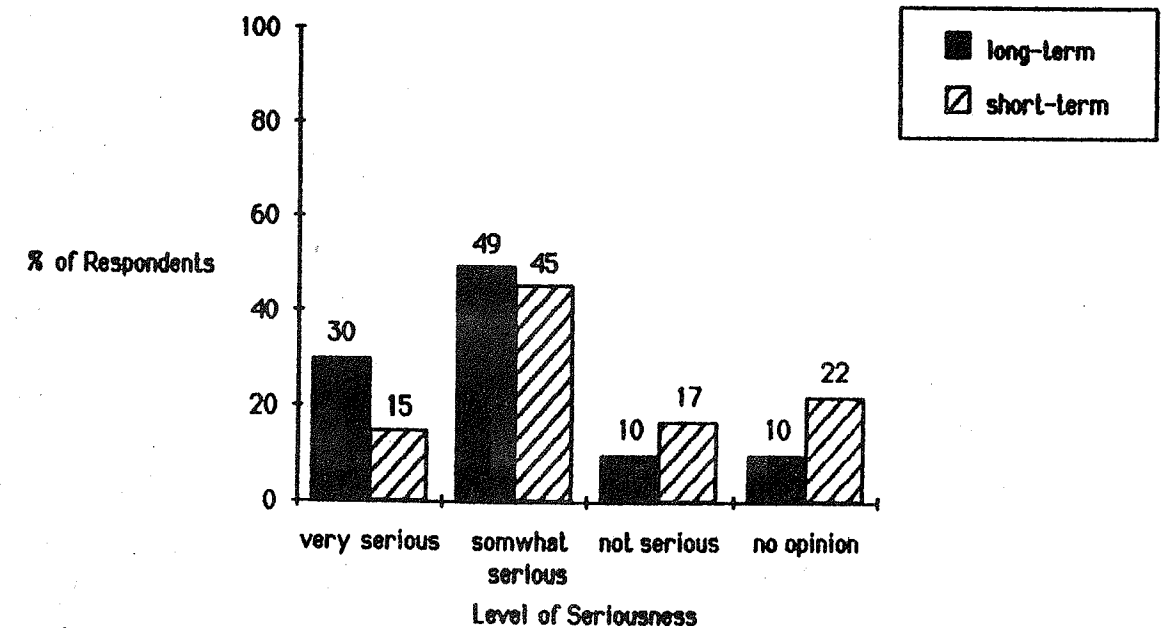


Figure 6. Opinions on the Need for Water Conservation by Length of Residence

the need for water conservation as more serious than short-term residents. For example, 30% of the long-term residents rated the problem as very serious, while only 15% of the short-term residents felt this way. Not surprisingly, over twice as many short-term residents had no opinion on the need for conservation.

Citizens were also asked if they thought the City of Moscow should implement water conservation measures now or in the near future. Figure 7 shows that a majority (65%) said yes, and that a

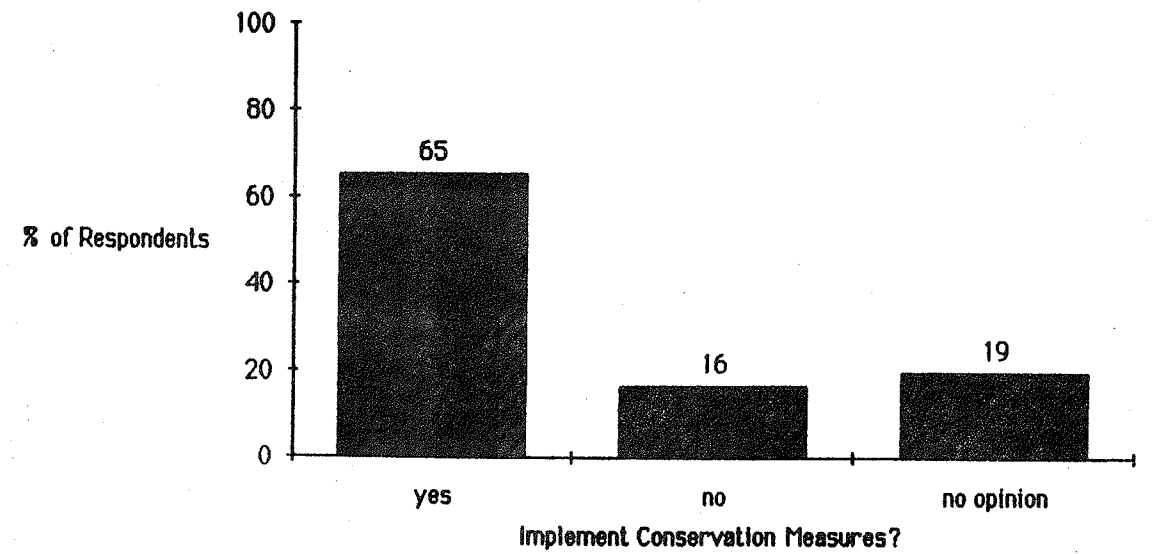


Figure 7. Opinions on the Implementation of Water Conservation Measures

significant portion (19%) had no opinion. A typical comment was:

"We should support conservation measures now, before it too late."

Those that favored water conservation measures were then asked about specific water conservation measures, such as limits on use or higher prices. Opinions varied considerably. Figure 8 shows that a majority favored limits on the amount of water used

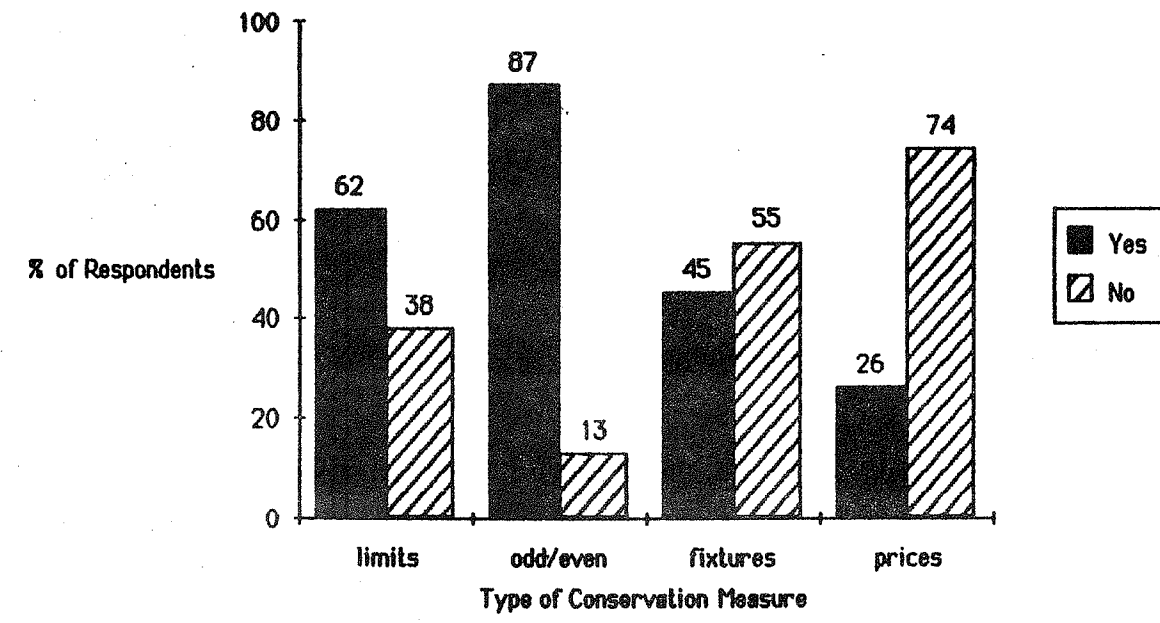


Figure 8. Opinion on Water Conservation Measures

and odd/even watering days, and a majority opposed mandatory water-efficient fixtures and higher water prices. Support was highest for odd/even watering

(87%) and lowest for higher prices (26%). Several citizens commented that water prices were already too high. Regarding the other conservation measures, one citizen stated:

"I don't like the idea of Big Brother forcing water limitation."

Opinions on Funding

Citizens were asked their opinion on the reallocation of existing city funds for water conservation activities. Figure 9 shows the results. A majority (56%) approved of such a reallocation, while 28% disapproved and 16% had no opinion.

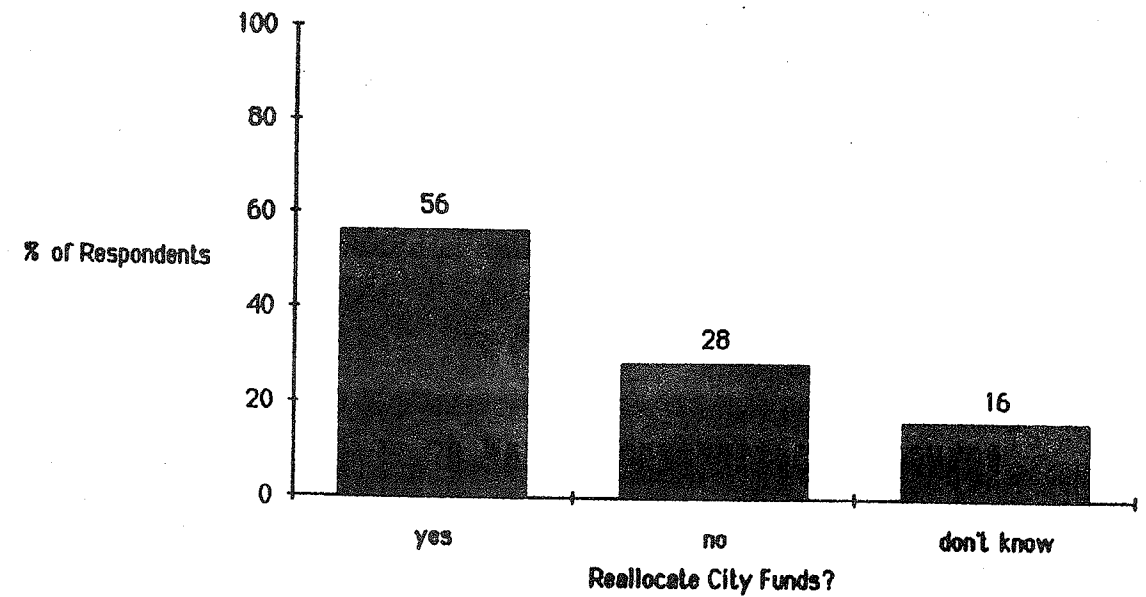


Figure 9. Opinions on the reallocation of City Funds for Water Conservation

When long-term and short-term residents are compared, some differences appear. Figure 10 shows that a higher proportion of the short-term resident favored reallocation of funds. The percent of respondents that had no opinion was roughly similar for both groups. Several citizens called for funding increased public education efforts.

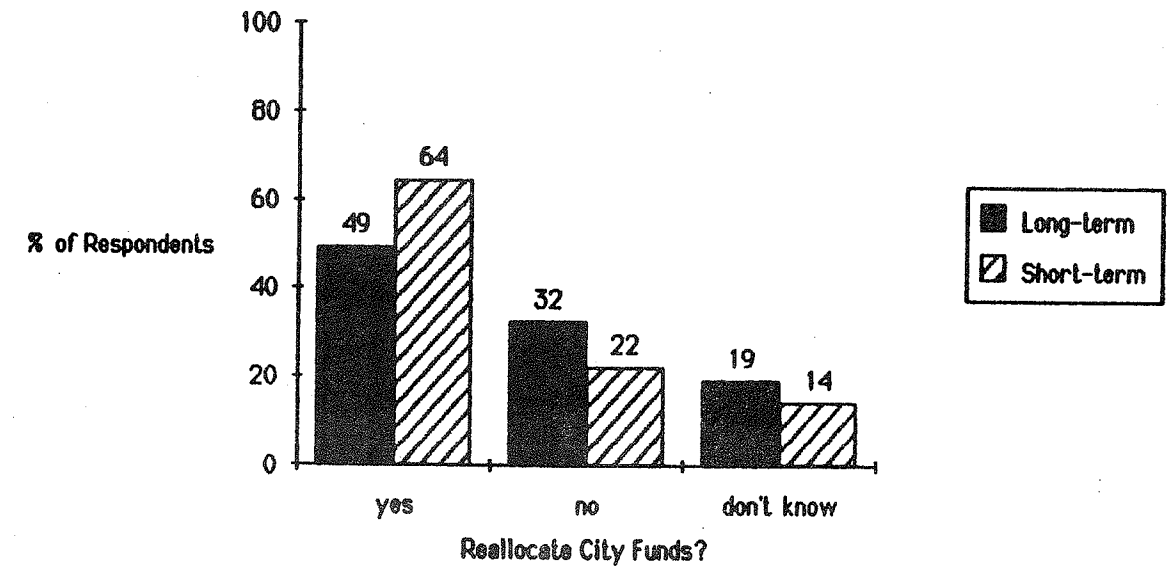


Figure 10. Opinions on Funding for Conservation by Length of Residence

Citizens Knowledge of Water Facts

To learn the level of knowledge that Moscow's citizens have about their water supply, questions were asked regarding pricing, source and consumption rates. The first question dealt with the summer

water price change. The rate charge for water in Moscow increases during the summer months. Respondents were asked if the rate increased. Figure 11 shows the results. While a large portion answered correctly (48%), a majority (52%) answered either incorrectly or did not know.

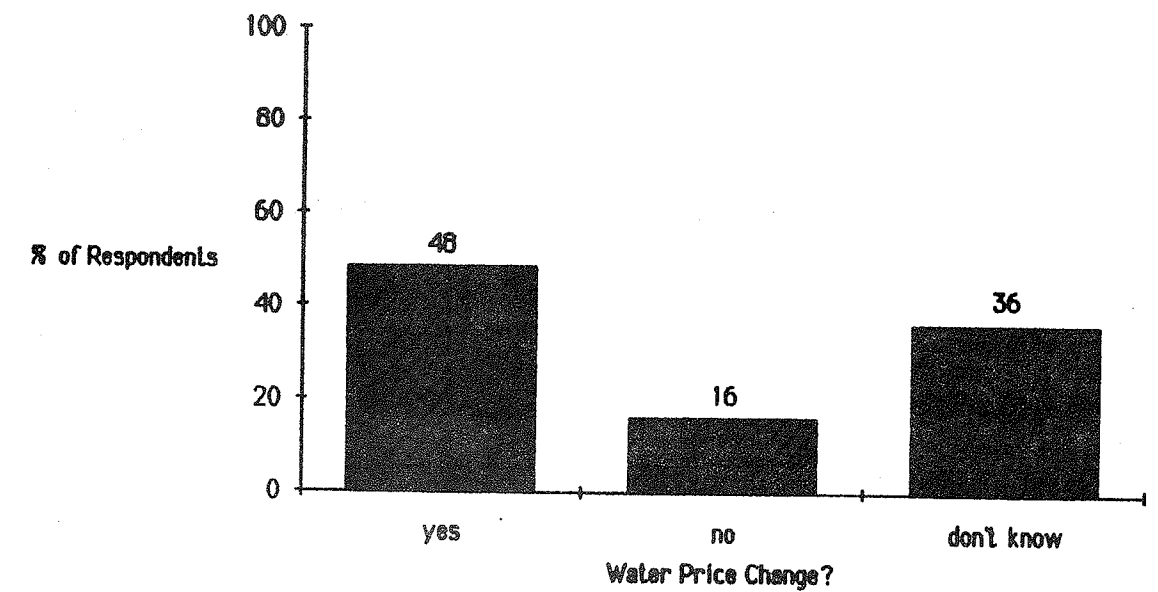


Figure 11. Knowledge of Summer Water Price Change

Short-term and long-term residents were compared as to their knowledge of the summer water price

change. Figure 12 shows, as expected, that more of the long-term residents were aware of the price change. Fully half of the short-term respondents did not know the answer.

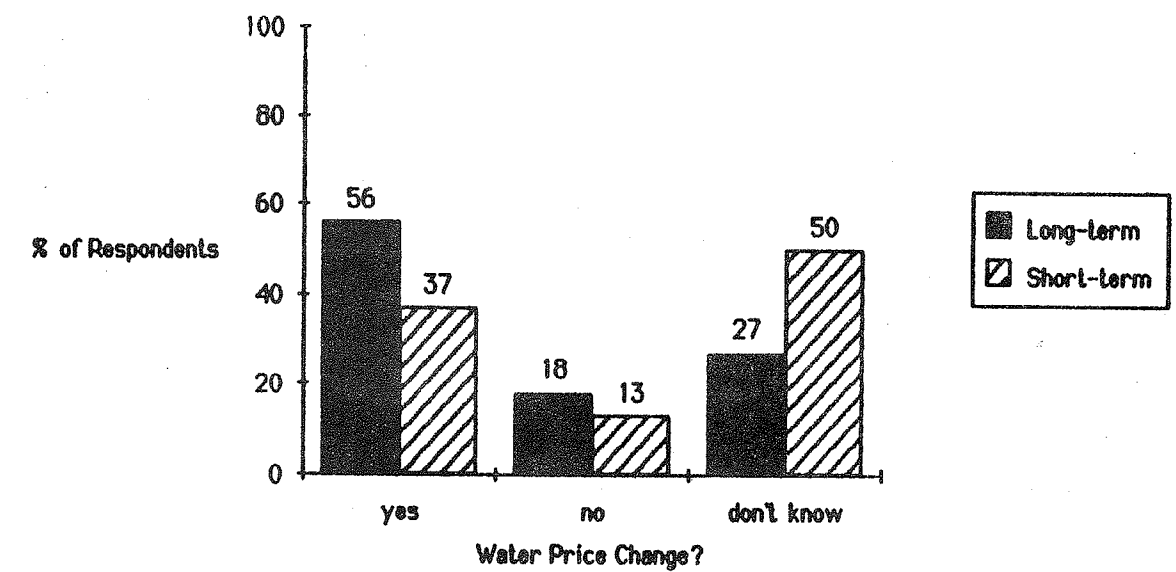


Figure 12. Knowledge of Summer Water Price Change by Length of Residence

The second question dealt with the source of Moscow's water supply, which is an underground aquifer. Respondents were asked if the city's water supply came from a reservoir, aquifer, or river.

Figure 13 shows a majority (68%) answered correctly, and 11% mistook the city's source of water as a reservoir or river. A considerable proportion of respondents (21%) did not know the source.

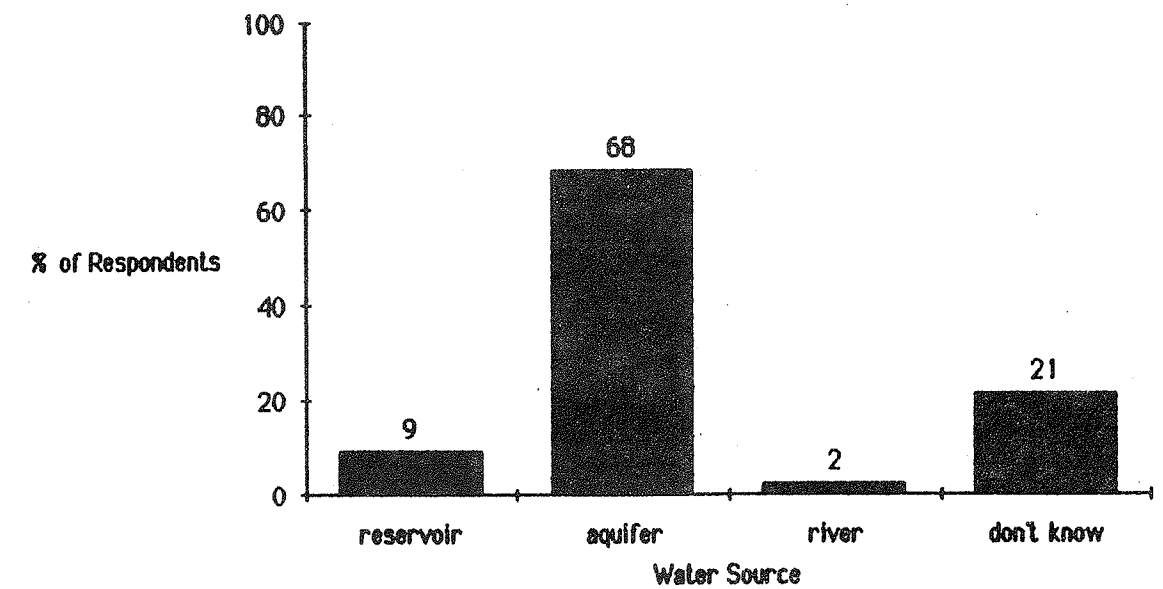


Figure 13. Knowledge of Moscow's Water Source

The third question dealt with estimating monthly household water use. An average household use was estimated by dividing domestic consumption for the entire city by the number of households. This approximate figure for 1986 was 15,000 gallons. Respondents were given several amounts to choose

from, and Figure 14 shows the results. A majority of respondents (76%) gave estimates much smaller than the computed city average, and less than a fourth (22%) had estimates close to the average.

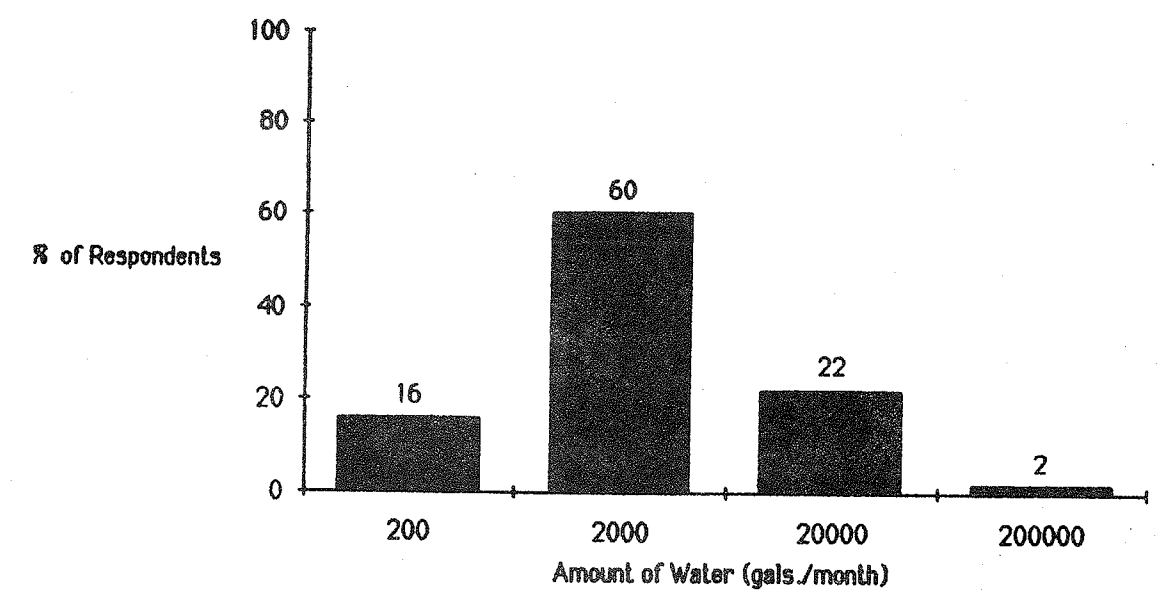


Figure 14. Best Estimate of Household water Use

Conclusion

Public attitudes are of great importance in the management of a natural resource, and this certainly applies to community water supplies. Regulations, policies and planning efforts are all likely to reflect the opinions and perceptions of citizens.

Based on this limited survey of Moscow residents, several conclusions can be drawn. First, there is considerable variation in how the residents rate the quality of their water supply. Second, a majority of residents see the need for water conservation as serious, support certain water conservation measures, and approve of the use of existing city funds to accomplish these activities. Third, a significant proportion of residents are not knowledgeable about the issue. It is hoped that this report can add to the public's awareness, and aid Moscow's public officials.

Appendix 1

MOSCOW WATER CONSERVATION SURVEY

Survey # _____

Date of interview: _____

Interviewer's name: _____

Location: Section Number _____ (Refer to Team map)

Address: _____

Give introduction at door.

- Was a contact made? Y N---> Go to next household
- Was the person over 18 years old? Y N---> Ask to speak to an adult
- Was the person willing to participate? Y N---> Thank them and go to next household

Q1. How long have you lived in Moscow? Number of years _____ (If less than 6 months, ask to speak to another adult in household)

Q2. How would you rate the overall quality of Moscow's water: good, average or poor?

Good Average Poor No Opinion

Q2a. If poor, what is its major problem?

Q3. How serious is the need for water conservation in Moscow: very serious, somewhat serious, not serious at all?

Very Serious Somewhat Serious Not Serious No Opinion

Q4. Does this house/apartment have any special water-efficient fixtures, such as flow-limiting faucets or showers?

Yes No Don't Know

I now would like to ask your opinions on some issues concerning water use in Moscow.

Q5. Should the City of Moscow implement water conservation measures now or in the near future (within 5 years)?

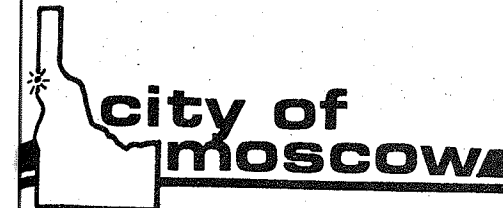
Yes No No Opinion

- Q5a. If water conservation was needed, would you favor:
 - 1. Limits on how much water could be used? Yes No
 - 2. Odd/even watering days? Yes No
 - 3. Mandatory water efficient fixtures? Yes No
 - 4. Increased prices for water? Yes No

Q6. Do you feel the city should reallocate available funds to investigate and/or promote water conservation?

Yes No No Opinion

Appendix 2



24
P. O. BOX 9203
122 EAST FOURTH ST.
MOSCOW, IDAHO 83843
TELEPHONE 882-5553
AREA CODE: 208

July 2, 1986

Dear Citizen:

Providing a high quality and affordable water supply is an ongoing task of Moscow's city government. We are interested in learning the opinions of citizens regarding our water supply and water conservation practices.

This summer a survey is being conducted of Moscow residents by students from the University of Idaho under the supervision of Dr. Gary E. Machlis. The survey is part of their course "Introduction to Sociology". The students are volunteering their effort, and the results of their work should provide valuable insight. All responses will be confidential. Please take a few minutes to answer the students' questions. The results of the survey will be presented to the City Council at its meeting on July 21, and you are welcome to attend.

If you have any questions regarding the survey, please feel free to contact Professor Machlis at the University (208) 885-7129.

Thank you for your cooperation.

Sincerely,

Gary L. Scott
Mayor

GLS:dm