San Francisco Water Department

San Francisco Watershed Management Plans

Public Opinion Survey Report

Prepared by

Public Research Institute, San Francisco State University
in cooperation with
EDAW, Inc.
and
Public Affairs Management
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The Public Research Institute at San Francisco State University provides research, consultation and training to community groups, non-profit organizations, and government agencies in the San Francisco Bay Area and northern California. PRI also provides students with advanced training and practical experience in applied research.

SAN FRANCISCO WATERSHED MANAGEMENT PLANS

PUBLIC OPINION

ON

WATERSHED MANAGEMENT ISSUES

A Survey of Households Served by the San Francisco Water Department

Conducted for the San Francisco Water Department by the Public Research Institute, San Francisco State University, in cooperation with EDAW, Inc. and Public Affairs Management

February, 1994

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A Survey of Households Served by the San Francisco Water Department

EXECUTIVE SUMMARY

Purpose. The San Francisco Water Department (SFWD) is currently preparing management plans for its two Bay Area watersheds. A survey was carried out in order to ascertain public opinion on issues of water quality, goals of watershed management, recreational access to the watersheds, environmental protection, financing, and other issues related to watershed management. Survey questions were based on SFWD goals for watershed management and on issues and input received from the public and from agencies at all levels of government. The findings of the survey will allow the SFWD to take the opinions of its public constituency into account in the planning process.

A random survey was conducted by telephone of 578 households in the SFWD service area during the period September 18 to October 3, 1993. The SFWD service area extends from San Francisco around the southern end of San Francisco Bay and includes most of San Mateo County and portions of Santa Clara and Alameda counties.

Methodology. To ensure representation of the region's diverse population, the survey employed random dialing. Households were called up to 20 times at various times and days of the week to contact as many randomly selected households as possible. Forty-eight interviews--8.3% of the total--were conducted in Spanish or Chinese. The goal was a survey response rate of approximately 50%, which is a standard for professionally conducted public-issue surveys of this sort; the actual response rate was 49.7%.

Summary of Public Opinion Survey Findings

- ***What watershed management goals are most important to the public?***

  The people surveyed placed water quality and environmental protection first. Asked to say which goal of watershed management they thought most important, 71% chose insuring water quality; 21% said protecting the natural environment; 5%, reducing costs to the customer; 3%, providing access for recreation and education. (See Section 2.3.)

- ***Does the public want greater access to the watersheds?***

  25% of the sample indicated less public access should be allowed than now;

  60%, about the same as now;

  12%, somewhat greater than now;

  4%, much greater than now. (See Section 2.4.)

  A large majority (80%) of the sample agreed with the proposition, "There are many other places in the Bay Area for people like me to go for outdoor recreation; the Alameda and Peninsula watersheds are not needed for that purpose" (Section 2.5).

- ***What recreational activities would the public allow in the watersheds?***

  Most of the people surveyed (between 65% and 92%) favored most of the activities that are now allowed, including natural resource studies, jogging, hiking, and bicycling. A

majority would also allow guided tours (75%) and picknicking (52%). Less than half of survey respondents (27-40%) would allow mountain biking, non-motorized boating, overnight backpacking, and fishing, along with two currently allowed uses, horseback riding and golf courses. Few people (6-11%) would allow vehicle camping, hunting, gun ranges, or motorized boating. (See Section 2.6.)

- ***Does the public want more revenue-producing activities in the watersheds in order to increase revenue? Which revenue-producing activities would the public allow?***

  The SFWD now leases some watershed lands for golf courses and for grazing, quarrying, and nurseries. Revenues from these leases help to offset the costs of providing water. Additional revenue-producing activities have been proposed.

  Overall, most respondents (57%) favored the same level of activities and revenue as now; 20% said they would allow fewer activities and receive less revenue; 19% wanted more activities, with more revenue; 4% wanted many more activities and much more revenue.

  Percentages of respondents that would allow six existing and proposed revenue-producing activities were (Section 2.7):

Plant nurseries	51%	Horse stables	29%
Golf courses	34%	Concessions	26%
Cattle grazing	31%	Quarrying	14%

- ***Would the public accept additional water treatment in order to provide greater public access to the watersheds?***

  Over half of the respondents (59%) would not accept additional water treatment in order to provide greater public access to the watersheds (Section 2.8).

- ***If provided, how should greater public access be paid for?***

  If greater public access were allowed, the SFWD would have to raise money to pay for facilities, treatment, and protection to support it. Eighty-nine percent of the respondents thought the SFWD should charge user fees to those who use the watersheds, in order to pay the additional costs of access (Section 2.9); 47% said the SFWD should expand revenue-producing activities for this purpose; 23% would increase water bills to customers.

- ***How much in higher water bills would the public be willing to pay for greater public access?***

  Fifty-five percent of respondents said their households would be willing to pay $1 or more per month in their water bills in order to fund additional water treatment and protective services required for greater public access (Section 2.10).

Copies of the complete report are available in the San Francisco Water Department offices in San Francisco, Millbrae and Sunol.

SAN FRANCISCO WATERSHED MANAGEMENT PLANS

PUBLIC OPINION ON WATERSHED MANAGEMENT ISSUES

A Survey of Households Served by the San Francisco Water Department

Conducted for the San Francisco Water Department by the Public Research Institute, San Francisco State University, in cooperation with EDAW, Inc. and Public Affairs Management
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1.0 Introduction

This is a report of findings of a survey of households in the service area of the San Francisco Water Department (SFWD), including San Francisco, most of San Mateo County, and parts of northern Santa Clara and southern Alameda counties.[1] Map 1 (next page) shows the boundaries of the area sampled.

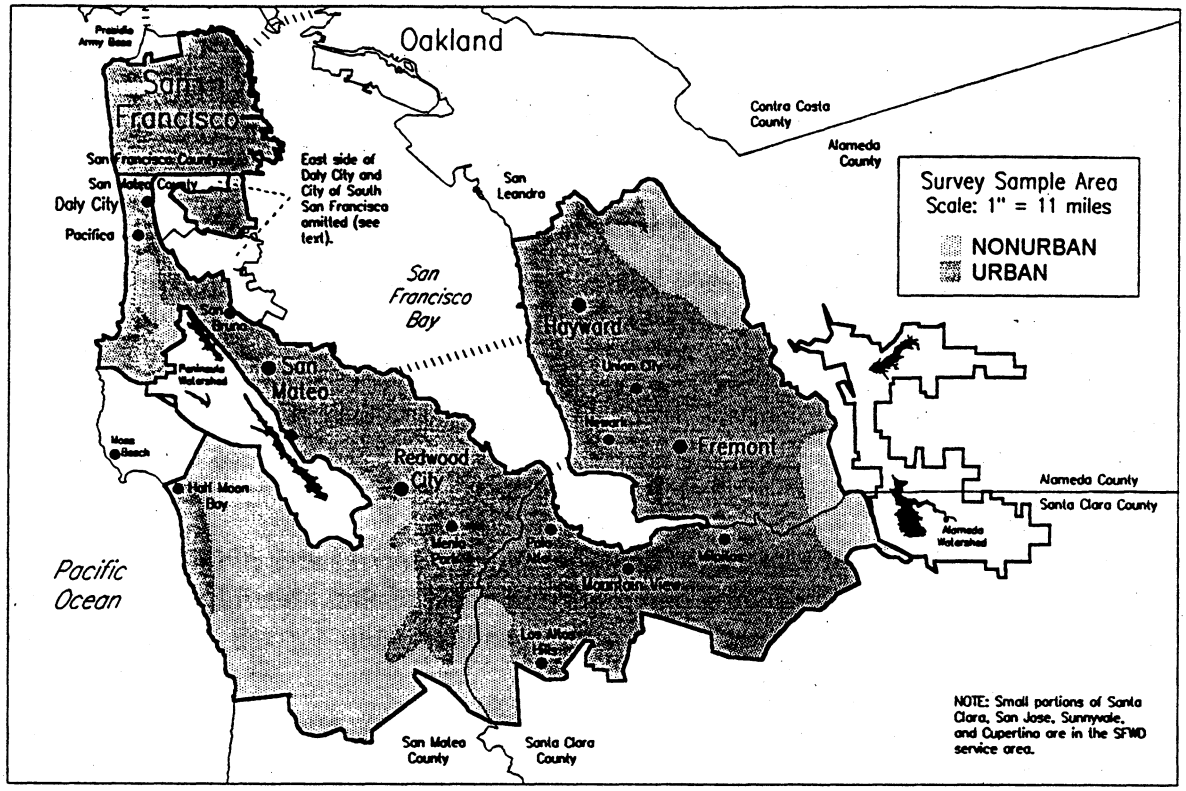
The survey was conducted between September 18 and October 3, 1993 for the SFWD by the Public Research Institute, San Francisco State University, in cooperation with EDAW, Inc. and Public Affairs Management. The survey was designed to provide information about the views of the public for the Department's Watershed Management Planning Process.

This report includes:

- characteristics of the sample, margin of error, and the context of the survey;
- respondents' opinions about the questions posed in the survey; and
- the main relationships between their opinions and social and economic characteristics such as ethnicity, gender, and income.

In addition, Appendix 1 provides the complete text of the interview interspersed with tables of the responses to each question. Appendix 2 contains respondents' transcribed comments in response to two questions. Question 1 of the survey asked respondents to rate the quality of their water. If they rated the quality of their water "poor," they were asked why. Then, at the end of the interview, all respondents were asked if they had "any last comments or suggestions." Their comments provide a rich understanding of the diversity of their views beyond their necessarily limited responses to set questions. Appendix 3 provides technical information about sampling and other issues.

[1] In San Francisco, the SFWD supplies water directly to customers; in the rest of the service area, it provides water wholesale to local water agencies.



Map 1. Survey Sample Area

San Francisco Water Department Service Area

1.1 The Sample

A random sample of 578 persons was surveyed by telephone; the questionnaire was translated into Chinese and Spanish, and 48 (8.3%) of the interviews were conducted in those languages. The sample was selected from households with telephones in the postal ZIP codes that approximate the SFWD's service area. In Map 1, these are the urban areas indicated with darker shading within the borders defined by ZIP codes. Two areas that receive some SFWD water--South San Francisco and the east side of Daly City--were not sampled because so many households in them are served by well water. The sample response rate was 49.7%, an acceptable professional standard for surveys of this kind. (See Appendix 3 for more information about sampling and other technical issues.)

The Bay Area Water Users Association, a group of 33 water suppliers that purchase water from the SFWD, has estimated the population served by each supplier. Table 1 compares these population estimates by county to percentages of sample respondents by county. The sample percentages are close to the population estimates, suggesting that the sample is satisfactorily representative.

Table 1. Comparison of Service Area Population and Sample, by County

	Population (persons)*		*Sample (households)*	
County	*Number*	*Percent*	*Percent*	*Number*
San Francisco	723,959	34.1%	39.5%	228
San Mateo	706,509	33.2	34.4	199
Santa Clara	313,926	14.8	11.6	67
Alameda	381,255	17.9	14.5	84
Total	2,125,649	100.0	100.0	578

* For San Francisco, 1990 Census. For other counties, these are estimates of population in the SFWD service area in FY 1991-92, by the Bay Area Water Users Association.

The sample is appropriately representative of the diverse population of the San Francisco Bay Area. Respondents ranged in age from 16 to 92. Forty-eight percent of the sample were male, 52% female. Of respondents who reported incomes, 22% reported household incomes below $25,000; the same percentage reported incomes over $80,000. Thirty-seven percent of the 563 respondents who reported their race or ethnic group identified themselves with groups other than "white." (See Appendix 1 for full information about these and other characteristics of the sample.)

1.2 Margin of Error

The best estimate of a population percentage is the sample percentage. For example, 56.7% of the sample rated their water quality "good." This is the best single estimate of the percentage of the service area population who would rate their water quality "good."

To take into account the possibility of random sampling error, apply the "margin of error." In this survey the margin of error for percentages based on the whole sample is plus or minus 4.2%. To use a sample percentage to estimate a corresponding population percentage using the margin of error, take the sample percentage plus and minus 4.2%. The resulting interval will include the population percentage about 19 times out of 20. For example, applying the 4.2% margin of error to the 56.7% of the sample who rated water quality "good," we can confidently conclude that between 52.5% and 60.9% of the service area population would rate their water quality "good."[2] Such interval estimates involve only random

[2] In the language of statistical inference, the reader can be 95% confident that the corresponding percentage in the population from which the sample was drawn will fall within the interval defined by the sample percentage plus or minus 4.2%. The margin of error is smaller than 4.2% for percentages close to zero or 100; it is larger

sampling error; they do not measure bias or other forms of potential error, such as selective refusal to be interviewed.

References in this report to relationships between variables or differences between groups always mean those that are unlikely to be the result of sampling error; they are likely instead to reflect real relationships and differences in the population of households from which the sample was drawn.[3]

1.3 Context and Meaning

Any survey is a snapshot of opinion at a particular time and place, expressed in response to a particular sequence and wording of questions and information. The survey was conducted in the western and southern portion of the San Francisco Bay Area, a region with a high level of environmental activism and concern. In addition, the issue of water quality was raised in public media in the Bay Area several times in the months before the survey was administered. An outbreak of infection in Milwaukee by cryptosporidium, a public health pathogen carried by water contaminated by cattle droppings, was widely publicized. Other media reportage of water quality problems was common in 1993, including a cover article in The New York Times Magazine that appeared while the survey was under way.[4] These events have probably generated heightened awareness and concern, which is in turn reflected in the responses to this survey.

Finally, a survey creates pressure on respondents to make choices on the basis of limited information and with no opportunity to exchange views with other people. For example, in a sense for most respondents the most rational response to a question about allowing a revenue-producing activity such as cattle grazing is, "It depends"--on the way grazing is regulated and on its utility for other purposes such as fire prevention--yet few respondents expressed that view. We do not know what people's opinions would be if they were provided with more information or if they had been exposed to discussion with others. Some of the open-ended comments that respondents gave at the end of the interview reflect their concerns about these matters.

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than 4.2% for subgroups in the sample. For example, for a subgroup of size 100, the margin of error for 50% is ±10%, at 95% confidence.

[3] Specifically, only relationships that are statistically significant at the .08 level are mentioned. In other words, all of the relationships between variables presented in this report meet this criterion: The probability is less than .08 that an observed relationship between two variables arose by sampling error alone. Thus the reader can be reasonably confident that the relationships from sample data cited in the text reflect relationships in the population.

[4] Sara Terry, "Drinking Water Comes to a Boil," *The New York Times Magazine*, September 26, 1992.

2.0 Summary and Analysis of Survey Results

This section summarizes the results of survey questions 1 through 14. The raw counts and percentages obtained for each question asked in the survey are provided in Appendix 1, along with the complete text of the questionnaire itself.

Questions 15 through 23 of the survey requested demographic information of each respondent and his/her household, specifically age, ethnicity, income, education, and whether or not the respondent or household rented or owned their residence, paid their own water bills, or engaged in outdoor activities. Gender was also confirmed during the interview.

Demographic characteristics have been cross-tabulated with the first set of questions (1-14) to reveal relationships--differences between groups in their responses to the questions. Cross-tabulations are presented in the following section of the report, highlighting those responses that are significantly different from the rest of the survey sample. The differences highlighted are great enough to be reliably attributed to group differences in the service area's population, while other differences between groups are not large enough to support that conclusion.

For example, in Table 2 (page 7), significantly fewer respondents in Alameda County rated their water quality "good" than respondents in other counties (41% vs. 56-63%). A difference this large is very unlikely to arise from sampling error. To indicate this, the Alameda County line of Table 2 is highlighted in **bold**.

2.1 Assessment of Water Quality, Recreational Opportunities, and Environmental Protection in the Bay Area (Q1-Q3)

Respondents were asked questions about the related issues of water quality, recreational opportunities, and environmental protection to register their views before they were exposed to information about the Water Department's goals and about options for use of the watersheds.

Water quality. Respondents' views on water quality may reflect a range of conditions in addition to the quality of the water supplied by the San Francisco Water Department. SFWD water is a blend of water from the Hetch Hetchy reservoir in the Sierra Nevada (about 85%) and local water from the Peninsula and Alameda watersheds (about 15%). Hetch Hetchy water is treated for corrosion control and disinfected. Local water is completely filtered, disinfected, and blended with Hetch Hetchy water. Local water agencies that receive and deliver SFWD water may also apply their own treatment to it. Many agencies blend SFWD water with other water. Some customers of some agencies that purchase SFWD water receive their water from wells, not from the SFWD. In addition, agency pipe systems and residential plumbing may have significant effects on the quality of water delivered at the tap.

More than half of the respondents (57%) rated their water quality good; one-third rated it fair. Less than one-tenth judged their water quality poor. Respondents who rated water quality poor were asked, *"Why do you rate it poor?"* Their comments were transcribed and

are reported verbatim in Appendix 1. Many comments refer to taste and smell, some to appearance, a few to perceptions of impurity.

Table 2 shows breakdowns of water quality ratings by various characteristics of respondents. Respondents in Alameda County rated the quality of their water somewhat lower than respondents in the other counties.

Ratings of water quality were related to a cluster of socioeconomic characteristics: people with household incomes of less than $15,000 per year, people with less than high school education, and renters were somewhat less likely to rate water quality "good" than homeowners and people with higher incomes and education. Among ethnic groups, African Americans were less likely than others to rate water quality good.

Satisfaction with Outdoor Recreational Opportunities (Q2). Most respondents were either very satisfied (38%) or somewhat satisfied (46%) with outdoor recreational opportunities in the Bay Area's regional parks, wild lands, and other open space. Ethnicity was the only characteristic of respondents clearly related to level of satisfaction. Whites were most likely to say they were very satisfied (46%); 24% of African Americans and 16% of Asian Americans and Pacific Islanders gave that response. More than 75% of each group was at least somewhat satisfied with outdoor recreational opportunities.

Satisfaction with Protection of the Bay Area's Natural Environment (Q3). Most respondents were at least somewhat satisfied with protection of the natural environment in the Bay Area:

22% very satisfied
50% somewhat satisfied
21% somewhat dissatisfied
7% very dissatisfied

Respondents under 60 were slightly less satisfied than those 60 and over, but no characteristic was strongly related to satisfaction with environmental protection.

2.2 Who Visits the SFWD Watersheds? (Q4 and Q4A)

Fifty-four percent of the sample reported that they had visited one or both SFWD watersheds: Peninsula and Alameda. The Peninsula Watershed was the more popular destination: 83% of respondents who had visited either watershed mentioned it, vs. 35% who reported visiting the Alameda Watershed. Of the total sample, 35% have visited only the Peninsula Watershed; 9%, only the Alameda; 10%, both.

Table 2. Rating Water Quality "Good," by Selected Characteristics

Q1. "How would you rate the quality of your drinking water--good, fair, or poor?"

	Percent Rating Water Quality "Good"	*No. in Group*
All Respondents	57%	(583)
San Francisco City & County	56%	(220)
San Mateo County	63	(193)
Santa Clara County	60	(65)
Alameda County	**41**	**(83)**
Less than $15,000/yr.	**42%**	**(48)**
$15-25,000	60	(50)
$25-40,000	57	(99)
$40-60,000	52	(106)
$60-80,000	58	(62)
$80,000+	65	(100)
Homeowners	60%	(321)
Renters	**53**	**(238)**
Less than high school diploma	**37%**	**(35)**
High school diploma	52	(73)
Some college	56	(132)
College degree	54	(161)
Graduate work or graduate degree	**66**	**(156)**
White	61%	(345)
Chicano/Latino/Hispanic	53	(64)
Asian American and Pacific Islander	56	(90)
African American	**36**	**(25)**
Other Ethnic Groups	**46**	**(24)**
16-29 years old	50%	(92)
30-49	59	(285)
50-69	56	(130)
70 and over	56	(54)

Note: Characteristics in **bold** highlight groups most different from the rest of the sample. These differences are great enough to be reliably attributed to group differences in the service area's population. Other differences between groups are not large enough to support that conclusion.

Visiting the watersheds was closely related to distance from them. Respondents who lived closest to a watershed were more than twice as likely to visit it than respondents whose homes were most distant (Table 3).

Table 3. Visits to Watersheds by County

	Peninsula Watershed		*Alameda Watershed*	
County	*Percent of Respondents Who Visited*	*Approx. Distance (miles)**	*Percent of Respondents Who Visited*	*Approx. Distance (miles)**
San Francisco	31%	7-15	11%	50-57
San Mateo	67	0-8	22	14-50
Santa Clara	57	8-17	25	2-15
Alameda	21	12-25	30	5-15

* Approximate distances in miles from points in each county to nearest access to watersheds.

Table 4 shows that residents of San Mateo and Santa Clara counties were more likely to report visiting a watershed; they live nearest the Peninsula Watershed. Income, ethnicity, and education were all moderately related to visiting the watersheds (Table 4). Respondents with lower income (up to $25,000) were about half as likely to report visiting a watershed as respondents with middle-to-high income. People who had at least some college were more likely to have visited a watershed than people with less education. Whites were likely to report visiting a watershed much more than other groups. In short, present use of the watersheds for recreational purposes is somewhat concentrated among whites at middle-to-high income and education levels. Consequently, whites constitute 79% of the watershed visitors in the sample.

Whites are somewhat more likely to live near the Peninsula Watershed than other groups, but proximity does not entirely explain their higher rate of visits to the watersheds. Further analysis of the data indicates that even after taking distance from watershed, income and education into account, substantial ethnic differences remain; that is, the observed differences between ethnic groups in rates of visiting the watersheds can not be accounted for by income and educational differences between them. Similarly, income and education effects remain after taking ethnicity into account.

Table 4. Visiting Watersheds, by County, Income, Education and Other Factors (Q4)

	Percent Who Have Visited One or Both Watersheds		
All Respondents	54%		
City & County of San Francisco	37%	**San Mateo County**	**74**
Alameda County	39	**Santa Clara County**	**70**
Less than $15,000/yr.	**27%**	**White**	**67%**
$15-25,000	**31**	Chicano/Latino/Hispanic	32
$25-40,000	61	African American	24
$40-60,000	61	Chinese	19
$60-80,000	62	Japanese	38
$80,000+	68	Filipino	31
		Other Asian/Pacific Islander	14
Homeowners	**63%**	**Other Ethnic Groups**	**60**
Renters	**42**		
		Men	57%
Less than high school diploma	**8%**	Women	51
High school diploma	**39**		
Some college	53	**16-29 years old**	**26%**
College degree	60	30-49	61
Graduate work or graduate degree	66	50-69	56
		70 and over	57

Note: Characteristics in **bold** highlight groups most different from the rest of the sample. These differences are great enough to be reliably attributed to group differences in the service area's population. Other differences between groups are not large enough to support that conclusion.

2.3 What Are the Most Important Goals for Watershed Management? (Q5 and Q6)

For the SFWD, protection of water quality is the primary goal of watershed management; secondary goals include protection of the natural environment, reduction of costs to customers, and provision of compatible public access for recreational and educational activities. Prior to describing SFWD goals to the sample, they were asked which of these watershed management goals they thought most important and second most important. The order in which the goals were presented was varied randomly to avoid biased response patterns.

The sample placed water quality first and environmental protection second, significantly ahead of reducing costs to customers or providing public access to the watersheds (Figure 1 and Table 5).

These priorities were shared across a wide range of groups. People who had visited the watersheds showed the same pattern of priorities as those who had not, and there were no clear differences between residents of different counties.

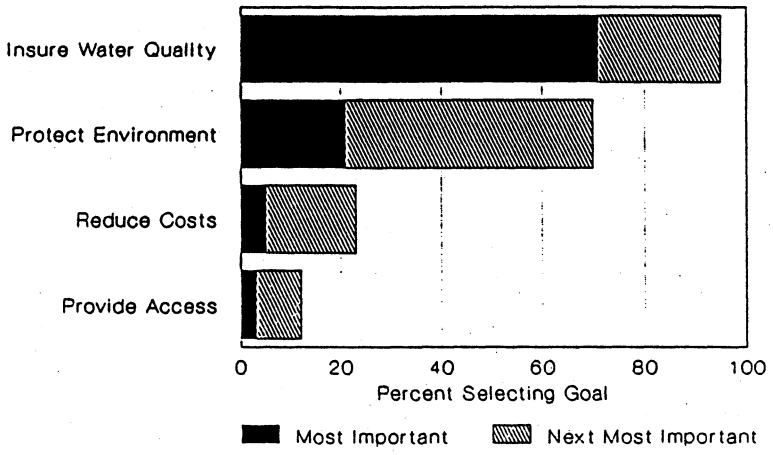


Figure 1. Importance of Watershed Management Goals
Most and Next Most Important

Table 5. Watershed Management Goals (Q5 and Q6)

Q5-6. "Which goal of watershed management do you think is ...? *Goal*	*(Q5) Most Important*	*(Q6) Second Most Important*
Insuring water quality	71%	24%
Protecting the natural environment	21	49
Reducing costs to the customer	5	18
Providing access for recreation & education	3	9

Note: In the interview, the order in which the goals were presented to respondents was randomly varied. N= 571 respondents for Q5, 558 for Q6.

Larger households were more likely to rate cost reduction the most important goal (Table 6, page 12), but even in households with six or more people, reducing costs was the most important goal for only 13% of respondents, and a majority (57%) still regarded water quality as the most important goal.

Majorities of every ethnic group rated water quality the most important goal, but there were differences between groups. As Table 6 shows, respondents of Asian origin were most likely to rate water quality the most important goal and less likely than other groups to rate environmental protection most important. Whites, Latinos, and African Americans were somewhat less likely to rate water quality most important and more likely to emphasize environmental protection.

2.4 Opinions About Public Access to Watersheds Overall (Q7)

Various user groups have expressed interest in access to watershed lands and reservoirs. Through the watershed management planning process, policies and plans will be developed to guide the SFWD in their decisions regarding public access to the watersheds. Respondents were told that the SFWD "has always restricted public access to the watershed for recreation in order to protect water quality and safety," but that "people are allowed limited access to parts of each watershed for activities such as hiking, bicycling, and golfing. Boating, fishing, and camping are not allowed."

Then they were asked their opinion about how much public access should be allowed. Figure 2 and Table 7 show that a majority favored the same level of public access as now. Twenty-five percent favored less access; a smaller group (16%) would have greater or much greater access.

Although Q7 is a general question, it taps a consistent position: responses to it are fairly strongly related to respondents' choices of goals (Q5 and Q6) and to their choices of specific kinds of access they would allow (Q9 and Q11).

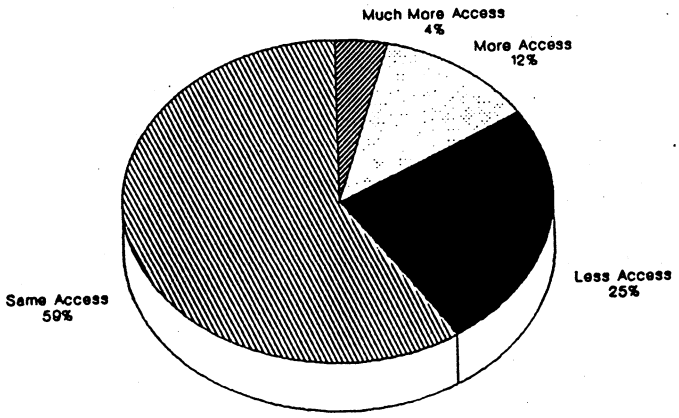


Figure 2. Opinions on How Much Public Access to the Watersheds Should Be Allowed for Recreation

Table 6. Group Differences on Watershed Management Goals

Q5. "Which goal of watershed management do you think is most important?"

	Insure Water Quality	*Protect Natural Environment*	*Reduce Costs to Customer*	*Provide Public Access*
All Respondents	71%	21%	5%	3%
Less than $15,000/yr.	**54%**	**29%**	**13%**	**4%**
$15-25,000	**54**	**29**	**8**	**10**
$25-40,000	75	18	5	2
$40-60,000	76	19	4	2
$60-80,000	76	17	6	0
$80,000+	71	22	3	5
Homeowners	**76%**	**16%**	**6%**	**2%**
Renters	**64**	**28**	**4**	**4**
1 in household	72%	22%	2%	2%
2	70	25	2	3
3	71	23	4	2
4	72	16	8	4
5	79	10	12	0
6 or more	**57**	**23**	**13**	**7**
White	**72%**	**22%**	**3%**	**3%**
Chicano/Latino/Hispanic	**56**	**25**	**17**	**2**
African American	**61**	**22**	**4**	**13**
Chinese	**84**	**10**	**6**	**0**
Japanese	**85**	**8**	**8**	**0**
Filipino	**81**	**13**	**6**	**0**
Other Asian/Pacific Islander	**79**	**7**	**7**	**7**
16-29 years old	**61%**	**32%**	**5%**	**1%**
30-49	**70**	**21**	**6**	**3**
50-69	79	14	4	4
70 and over	78	14	6	2

Note: Characteristics in **bold** highlight groups most different from the rest of the sample. These differences are great enough to be reliably attributed to group differences in the service area's population. Other differences between groups are not large enough to support that conclusion.

Table 7. How Much Public Access to Watersheds Should Be Allowed?

Q7. "Which of the following best represents your opinion? --Allow public access--?"

	Less Than Now	*About Same As Now*	*Somewhat Greater*	*Much Greater*
All Respondents	25%	59%	12%	4%
Most important goal:				
Insuring water quality	**25%**	**62%**	**10%**	**3%**
Protecting environment	**26**	**61**	**9**	**5**
Reducing costs to customers	**28**	**41**	**28**	**3**
Providing public access	**0**	**41**	**41**	**18**
Less than $15,000/yr.	36%	45%	17%	2%
$15-25,000	20	69	6	4
$25-40,000	34	52	12	2
$40-60,000	23	64	8	5
$60-80,000	10	65	17	8
$80,000+	24	59	13	4
White	**19%**	**67%**	**12%**	**2%**
Chicano/Latino/Hispanic	**44**	**34**	**16**	**6**
African American	**22**	**57**	**17**	**4**
Asian/Pacific Islander	**31**	**54**	**6**	**10**
Other Ethnic Groups	**26**	**57**	**13**	**4**
16-29 years old	**20%**	**65%**	**13%**	**2%**
30-49	**21**	**60**	**13**	**6**
50-69	33	55	8	3
70 and over	30	61	9	0
Men	**24%**	**55%**	**15%**	**6%**
Women	**25**	**64**	**8**	**2**

Note: Characteristics in **bold** highlight groups most different from the rest of the sample. These differences are great enough to be reliably attributed to group differences in the service area's population. Other differences between groups are not large enough to support that conclusion.

Among the small group of respondents who regarded greater access or reducing costs as the most important goals of watershed management (8% of the sample), the percentage favoring greater or much greater access rises sharply.

Younger respondents were more likely than older ones to favor greater access, and men were more likely than women to do so. Latinos were somewhat more likely than other groups to favor less access than at present. Income appears to be not consistently related to opinions about access. Homeowners and renters were very similar (not shown in Table 7).

Despite the differences among subgroups shown in Table 7, the majority of the sample that is served directly or indirectly by SFWD water, who are also the major present and future recreational users of the watersheds, do not typically prefer greater public access than they have at present.

2.5 Opinions About Relationships Between Water Quality, Recreational Opportunities, and Greater Public Access to the Watersheds (Q8A-Q8D)

A series of statements were presented to respondents to explore these relationships, asking for level of agreement or disagreement. Consistent with responses to Q5, Q6, and Q7, responses to Q8 showed that the typical respondent was more concerned with water quality and environmental protection, and less concerned with recreation and other public access to the watersheds (Figures 3A-D).

Q8A. *"It is possible to have BOTH high quality water AND more recreational opportunities in the watersheds."* Figure 3A: respondents were about evenly divided between agree and disagree; 52% agreed somewhat or strongly, 48% disagreed somewhat or strongly.

Q8B. *"Allowing more people in the watersheds now will lead to overuse of the watersheds later."* Figure 3B: 74% of respondents agreed; 42% strongly, 32% somewhat.

Q8C. *"There are many other places in the Bay Area for people like me to go for outdoor recreation; the Alameda and Peninsula watersheds are not needed for that purpose."* Figure 3C: 80% agreed with this statement, 51% of them strongly. Respondents who were dissatisfied with recreational opportunities in the Bay Area (Q2) were somewhat more likely to disagree with this proposition; but even within this group, 63% agreed that watersheds are not needed for recreation.

Q8D. *"Allowing more people into the watersheds will harm the natural environment."* Figure 3D: 82% agreed, 52% strongly.

Figure 3A. Opinion--Can Have BOTH High Quality Water AND More Recreation in Watersheds

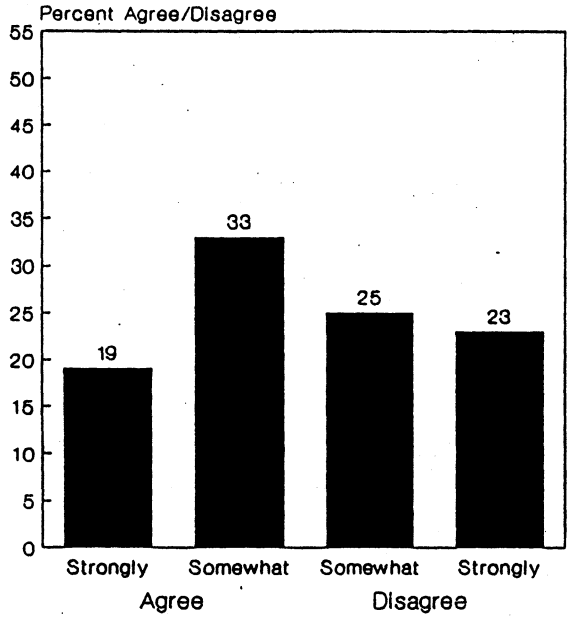


Figure 3B. Opinion--Allowing More People into Watersheds NOW Will Cause Overuse of Watersheds LATER

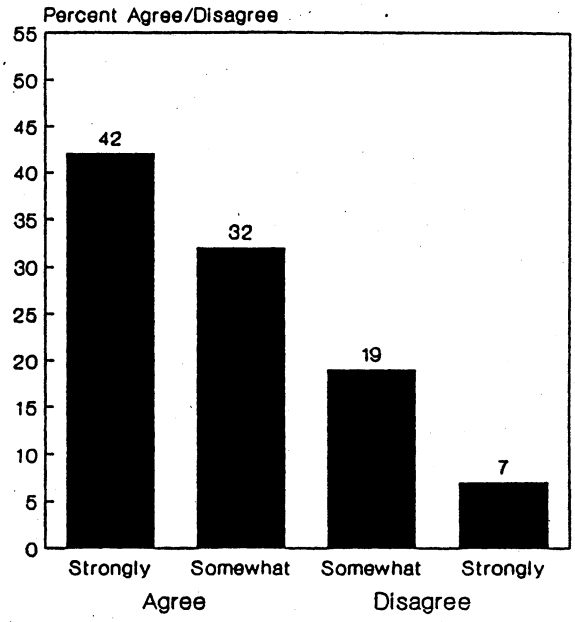


Figure 3C. Opinion--Other Places for Outdoor Recreation; Watersheds Not Needed for that Purpose

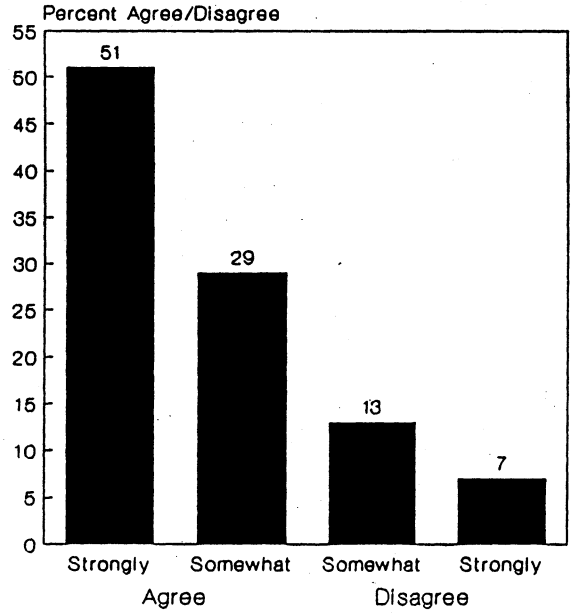


Figure 3D. Opinion--Allowing More People into Watersheds Will Harm the Natural Environment

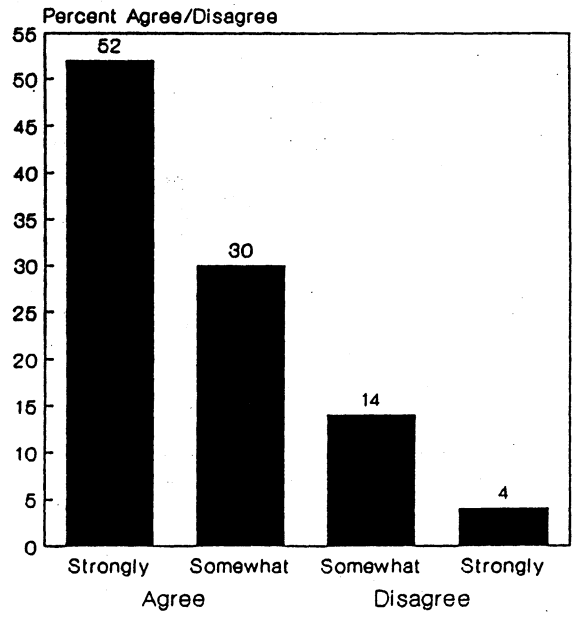


Figure 3. Opinions on People, Recreation, Water Quality, and the Natural Environment

2.6 What Recreational Activities Should Be Allowed in the Watersheds? (Q9A-Q9P)

All respondents, including those who favored the same or less access, were asked which recreational activities they would allow in the watersheds. Figure 4 and Table 8 show large variations in the extent to which respondents would allow different recreational activities. Certain activities already allowed, such as jogging and hiking, were supported by large majorities. Activities involving vehicles and motors and requiring substantial construction of roads and other facilities tended to be opposed by most respondents.

People who had visited one or both of the watersheds took somewhat different stands on allowable recreational activities than people who had not. Table 8 provides the comparison. People who had visited a watershed were inclined to allow only one activity, hiking, significantly more than nonvisitors. Nonvisitors were somewhat more likely than visitors to allow the activities less favored overall, shown in the bottom half of Table 8. It may be speculated that nonvisitors are indicating the sorts of activities that would attract them to a park, while visitors are seeking to protect the surroundings and activities that have attracted them already. However, the observed differences between visitors and nonvisitors do not mean that they are diametrically opposed in their positions. For example, 35% of nonvisitors would allow fishing, but so would 23% of the visitors: a real but not a great difference.

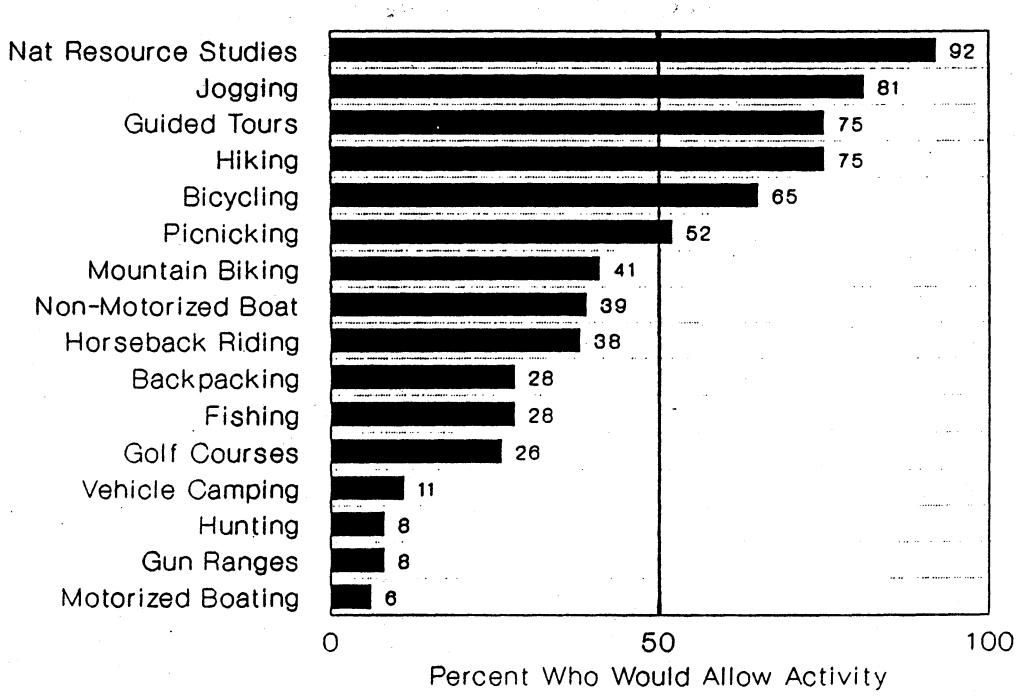


Figure 4. Opinions on What Recreational Activities Should Be Allowed in the Watersheds

People who had visited only the Peninsula Watershed were quite similar in their views to people who had visited only the Alameda Watershed. Peninsula Watershed visitors were slightly less likely to allow overnight backpacking and mountain biking than Alameda Watershed visitors. People who had visited both watersheds were less likely to allow jogging, horseback riding, and bicycling than people who had visited only one.

Residents of the four counties would allow recreational activities in somewhat different patterns and amounts. Residents of Santa Clara County and especially of San Mateo County, who are closest to the scenic values of the Peninsula Watershed and who are most likely to have visited it, were typically less willing to allow many particular activities than residents of San Francisco and Alameda counties. San Francisco and Alameda County residents were somewhat more likely to allow vehicle camping, mountain biking, boating (both motorized and nonmotorized), and horseback riding. While these differences probably represent real differences between the populations of the counties, typically only 10-15 percentage points separated residents of one county from those of another.

The typical or median respondent would allow seven recreational activities (half would allow more, half fewer). The typical respondent who indicated on Q7 a preference for less public access than at present would still allow five recreational activities (median). Of those that preferred less access, 24% would allow eight or more recreational activities in the watersheds. These respondents appear to be comfortable with many particular activities even though they say they favor some reduction in the scale of public access overall.

In spite of the differences shown in the types of recreational activities allowed between people who have visited and people who have not visited the watersheds (Table 8), the two groups are not much different in the number of recreational activities they would allow overall. The median visitor would allow six; the median nonvisitor, seven. The median residents of San Mateo and Santa Clara counties would allow six activities; median residents of San Francisco and Alameda County, seven.

On the theory that people want more opportunities to do what they prefer to do, we might expect that the number of recreational activities respondents would allow would be clearly related to the number of outdoor recreational activities respondents say the members of their household engage in per year (Q15); however, these variables are not related. Neither is the number of recreational activities respondents would allow related clearly to size of household, whether renters pay their own water bills, education, ethnicity, income, or respondents' ratings of water quality.

However, homeowners would allow fewer activities than renters; older people fewer than younger people; and women substantially fewer than men. For example, nearly twice as many men as women would allow ten or more recreational activities in the watersheds (26% vs. 14%). Respondents who were willing to accept additional water treatment in order to provide greater public access tended to favor more activities than people who did not want additional treatment.

Table 8. Allowing Recreational Activities in the Watersheds Watershed Visitors and Nonvisitors Compared

Q9. "I'm now going to mention various types of recreational activities. For each type, please tell me if you think it should be allowed or not allowed in these watersheds."

Activity		*Percent Who Would Allow Activity*[1] *All Respondents*[4]	*Have Visited*[2] *Watershed*	*Have Not Visited*[3] *Watershed*
Q9M	Natural resource studies**	92%	93%	90%
Q9G	Jogging**	82	81	81
Q9A	Hiking**	75	80	69*
Q9K	Guided tours**	75	76	74
Q9N	Bicycling**	65	63	67
Q9D	Picnicking	53	51	54
Q9L	Mountain biking	41	33	50*
Q9J	Nonmotorized boating	39	32	47*
Q9H	Horseback riding**	38	36	42
Q9B	Overnight backpacking	28	25	32*
Q9E	Fishing	28	23	35*
Q9O	Golf courses**	26	23	31*
Q9C	Vehicle camping	11	6	16*
Q9F	Hunting	8	6	11*
Q9P	Gun ranges	8	7	8
Q9I	Motorized boating	6	3	10*

[1] For activities in the middle range--between 25 and 50% "allow"--between 7 and 13% of respondents indicated "depends." Views of particular operations would probably depend on how they were designed and regulated.

[2] N = at least 299. [3] N = at least 257. [4] N = at least 560.

* These observed differences between watershed visitors and nonvisitors probably reflect real differences between visitors and nonvisitors in the population of the SFWD service area.

** Activities currently occurring on portions of one or both watersheds.

2.7 Opinions About Revenue-Producing Activities in the Watersheds (Q10-Q11)

When asked a general question about the level of revenue-producing activities they would prefer, such as quarrying, grazing, nurseries and golf courses (Q10), more than half of the respondents (57%) indicated that they preferred about the same level of revenue-producing activities as now; 20% wanted fewer such activities, 23% wanted more. However, when they were asked about each of six specific revenue-producing activities, five of which are already conducted in one or both watersheds, only wholesale plant nurseries received support from a clear majority of the sample (Q11, Figure 5 and Table 9). Specific revenue-producing activities appeared somewhat less attractive to the sample than the principle of revenue production. On the other hand, a count of the number of activities each person would allow yields a somewhat more permissive picture: 52% of the sample would allow two or more activities.

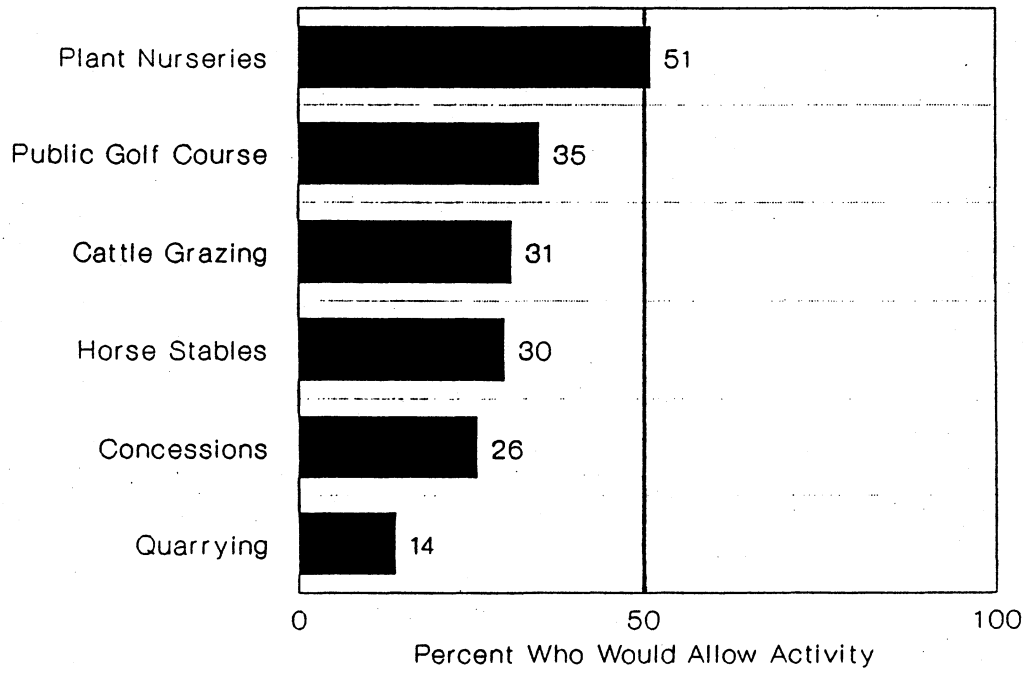


Figure 5. What Revenue-Producing Activities Should Be Allowed in the Watersheds?

Table 9. What Revenue-Producing Activities Should be Allowed in the Watersheds? Watershed Visitors and Nonvisitors Compared (Q11)

	Percent Who Would Allow Activity[1]		
Activity	*All Respondents*[4]	*Have Visited*[2] *Watershed*	*Have Not Visited*[3]
Q11B Wholesale plant nurseries**	51%	48%	55%
Q11A Public golf courses**	35	35	35
Q11C Cattle grazing**	31	32	29
Q11F Horse stables	30	29	31
Q11E Concessions for public services**	26	20	34*
Q11D Sand and gravel quarrying**	14	14	16

[1] Between 7 and 12% of respondents indicated "depends." Views of particular operations would probably depend on how they were designed and regulated.
[2] N = at least 292. [3] N = at least 257. [4] N = at least 552.
* This observed difference between watershed visitors and nonvisitors probably reflects a real difference between visitors and nonvisitors in the population of the SFWD service area.
** The Crystal Springs Golf Course, including related concessions, is located in the Peninsula Watershed; the Sunol Golf Course, plant nurseries, cattle grazing, and quarrying are conducted in the Alameda Watershed.

Nonvisitors were more likely than visitors to favor allowing concessions for public services, but even among nonvisitors, a majority would not allow concessions. Otherwise, there were no statistically significant differences between visitors and nonvisitors. Visitors to the Peninsula Watershed were less likely to allow plant nurseries (44%) than were people who had visited only the Alameda Watershed (60%).

A few clear relationships emerge that reflect the different interests and concerns of particular groups. Older people (65 and over) were typically half as likely as younger ones (under 35) to allow these activities, except for golf, for which preferences were unrelated to age. Respondents for whom water quality or environmental protection were the most important goals (Q5) were also typically half as likely to allow quarrying, concessions, and stables as respondents who regarded cost reduction or recreational access as paramount.

Differences between groups emerged with respect to concessions. The higher the level of education, the less willing respondents were to allow concessions. Twenty-one percent of people who had graduated from college would allow concessions, compared to 57% of respondents with less than a high school diploma.

Whites were less likely to allow concessions than other groups. Twenty-two percent of whites would allow concessions, but 28% of African Americans, 37% of Latinos, and 37% of Asians and Pacific Islanders combined. Forty percent of respondents in larger households (five or more) would allow concessions, compared to 14% of respondents in one-person households.

People who lived in different counties were very similar with respect to the revenue-producing activities they would allow; San Franciscans were somewhat more willing than others to allow concessions (33% vs. 22%).

Renters were more willing to allow horse stables (37%) than homeowners were (24%); otherwise, characteristics such as home ownership, paying own water bills, and income were not consistently related to allowance of revenue-producing activities.

2.8 Is Additional Water Treatment Acceptable in Order to Provide Greater Public Access? (Q12)

If greater public access were permitted, additional water treatment might be necessary to maintain high water quality. Most respondents (59%) would not accept additional water treatment to provide greater public access. Renters were more willing to accept additional treatment to obtain greater access than homeowners (50% to 34%). Relatively young respondents--16 to 24--were more willing to accept additional treatment than older respondents (45 and over), 59% to 35%. Men were more willing than women, 51% to 32%. Respondents with less than high school education (68%) were more willing than people with graduate degrees (35%); a similar difference emerged between low-income and high-income respondents.

Opinions on additional treatment and on allowing recreational or revenue-producing activities were closely related. For example, respondents who would allow 12-15 recreational and educational activities (Q9A-Q9P) were more willing to allow additional treatment (77%) than those who would allow 0-4 activities (23%). Only 3% of the sample regarded recreational access as the most important goal (Q5); they were more willing to accept additional treatment (88%) than the rest of the sample (39%).

Willingness to accept additional water treatment was related to beliefs about the compatibility of high water quality and recreation. Fifty-one percent of the sample had agreed with the proposition that high water quality and increased recreational opportunities in the watersheds are both possible (Q8). Fifty-nine percent of these respondents were willing to accept additional water treatment vs. 36% of respondents who disagreed with that proposition.

2.9 How Should the Facilities, Treatment, and Protection to Support Greater Public Access be Paid For? (Q13A-C)

If greater public access were allowed, the SFWD would have to raise money for facilities, treatment, and protection to support it. As noted above, 84% of the sample said they would allow the same or less public access than now (Q7), and 59% of the sample would not accept

additional water treatment in order to provide increased public access to the watersheds (Q12). Nevertheless, if increased access were provided, additional facilities, treatment, and protection would be required, and funding would have to be obtained. Even people who oppose greater access and do not want additional water treatment might prefer some financing methods over others.

To ascertain public preferences for alternative ways of raising money to support greater access--assuming it were provided--respondents were given a yes-or-no choice of each of three financing methods:

- charging user fees to people who use the watersheds;
- increasing water bills; and
- expanding revenue-producing activities.

Charging user fees to those who actually use the watersheds in order to pay additional costs of access was the most frequently approved financing option. Of the whole sample, 89% thought that the Water Department should charge user fees (Table 10). Forty-seven percent of the sample indicated the SFWD should expand revenue-producing activities to pay for greater access. Raising water bills was least favored, with 23% saying the SFWD should raise water bills for this purpose.

Choices of the three methods were statistically independent of each other: "Yes" responses to one method were not related to "Yes" responses to others. Most respondents were willing to use two or three methods.

User fees. The preference for user access fees is widely shared, and subgroups in the sample were not significantly different with respect to it.

Increase revenue-producing activities. Table 10 shows that modest differences on expansion of revenue-producing activities to pay for greater public access emerged for several characteristics of respondents. Income; homeownership; education; ethnicity; and age were related to willingness to expand revenue-producing activities in order to finance greater access (Table 10). Respondents who favored more public access were more likely to agree to expansion of revenue-producing activities as a way of financing greater access. Similarly, people who would allow 12-15 recreational activities (Q9A-Q9P) were more than twice as likely to be willing to increase revenue-producing activities to pay for additional treatment as people who would allow only 0-4 recreational activities (73% vs. 27%, not shown in Table 10).

Raising water bills. Relatively few respondents would increase water bills to pay for greater access. Respondents who would allow more public access were more likely to agree to raising water bills as a way of financing it.

Table 10. Public Preferences for Alternative Financing Methods

"To pay for greater public access, should the Department..."
Q13A. "...charge user fees?" Q13B. "...increase water bills?"
Q13C. "...expand revenue-producing activities?

Percent Saying "Yes":	*Fees*	*Activities*	*Bills*
All Respondents	89%	47%	23%
Less than $15,000/yr.	87%	**54%**	16%
$15-25,000	92	**62**	32
$25-40,000	82	**48**	29
$40-60,000	92	**50**	23
$60-80,000	97	**56**	27
$80,000+	89	**38**	21
Homeowners	90%	**43%**	**19%**
Renters (pay own water bills)	82	**49**	**29**
Renters (do not pay own bills)	91	**55**	**25**
Men	90%	50%	**28**
Women	88	45	**17**
Less than high school diploma	78	**33**	27
High school diploma	92	**58**	23
Some college	90	**58**	20
College degree	90	**38**	25
Graduate work or graduate degree	94	**38**	21
White	89	**43**	23
Chicano/Latino/Hispanic	86	**58**	20
African American	92	**64**	12
Asian American/Pacific Islander	89	**53**	22
16-29 years old	90	**60**	27
30-49	90	**49**	22
50-69	88	**39**	23
70 and over	81	**37**	15
Q7 Public Access--Less than now	89	**39**	**22**
About same as now	89	**47**	**18**
Somewhat greater	89	**61**	**33**
Much greater than now	92	**59**	**45**

Note: For explanation of numbers in **bold**, see note to Table 7.

2.10 What Would SFWD Customers Be Willing to Pay for Water Treatment and Protective Services for Greater Recreational Access? (Q14 & Q14A)

Respondents were asked again to assume that some greater public access to the watersheds would be allowed. The context already established by Q13 was that additional facilities, treatment, and protection would be required to support greater public access, and that money would have to be found for this purpose. Q14 attempted to ascertain how much households would be willing to pay each month in higher water bills for that purpose. Increasing water bills as a means of raising money was the only method of financing mentioned in Q14.

Within the context of these assumptions, respondents were asked the maximum total additional amount in higher water bills their household would be willing to pay each month for water treatment and protective services. Respondents who initially hesitated or refused to answer were prompted with Q14A: *"Would your household be willing to pay: Nothing extra? $1 to $5? $6 to $10? $11 to $20? More than $20?"*

Respondents who were prompted with Q14A tended to give somewhat higher dollar amounts than respondents who answered Q14 directly. Still, combining the numbers produces a distribution that is not greatly different from the distribution of responses to Q14 alone. The combined responses are shown in Figure 6.

More than half of the respondents (55%) said their households would be willing to pay at least $1 more per month in their water bills in order to pay the treatment and protective-services costs of greater public access, if greater access were allowed. Recall that 77% of respondents said the SFWD should not raise water bills for this purpose (Q13B); only 16% wanted greater public access for recreation in any case (Q7); and 59% said they would not accept additional water treatment to provide greater public access (Q12). Nevertheless, if greater access were allowed; if additional water treatment and protective services were required; and if funding for this would come from water users, 55% of respondents would be willing to pay $1 or more per month for this purpose.

Twenty-three percent of the sample had said they thought the SFWD should increase water bills to pay the additional costs of greater access (Q13B, Table 10). Of this group, 90% indicated they would be willing to pay at least $1 more per month for greater public access; but even among the three out of four respondents who thought water bills should not be the method of payment, 46% said they would be willing to pay at least $1 more per month.

Homeowners, who pay their own water bills, were less likely than renters to say they were willing to pay $1 or more per month, 52% vs. 61%. Women were less likely than men to pay $1 or more per month, 49% to 62%. Amounts that respondents were willing to pay were not associated with income, with whether renters paid their own water bills, or with education, ethnicity, county of residence, or watershed visited.

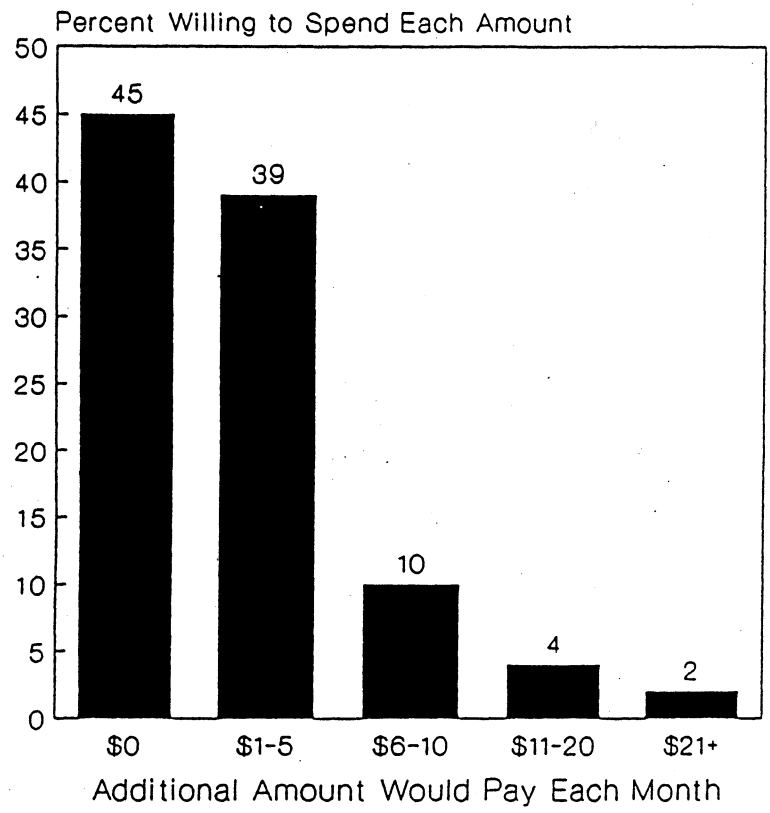


Figure 6. How Much More Would People Be Willing to Spend Each Month on Their Water Bills for Greater Access to Watersheds?

SAN FRANCISCO WATERSHED MANAGEMENT PLANS

PUBLIC OPINION ON WATERSHED MANAGEMENT ISSUES

A Survey of Households Served by the San Francisco Water Department

Conducted for the San Francisco Water Department by the Public Research Institute, San Francisco State University, in cooperation with EDAW, Inc. and Public Affairs Management

APPENDIX 1. QUESTIONNAIRE TEXT AND TABLES

Following is the complete text of the questionnaire for the survey, interleaved with tabulations of responses to each question. In the tabulations, responses such as refused to answer, don't know, etc., are omitted; percentages are based on the number of respondents who gave one of the responses requested by the interviewer. If refused, don't know, etc., responses amounted to 5% or more of the respondents who were asked the question, the number and percent of such responses are also reported.

The total sample size is 578.

SAN FRANCISCO WATER DEPARTMENT
PUBLIC OPINION SURVEY ON
WATERSHED MANAGEMENT PLANNING

{GREETING}

Hello, I'm _____ of the Public Research Institute at San Francisco State University. We're conducting a survey for the San Francisco Water Department. I need to talk with an adult who can speak for your household. Would you be that person?

{FILTER}

Before we start, I need to know your ZIP code to be sure your household is in the Water Department's customer service area. If you're not, I won't take up any more of your time. May I have your ZIP code?

ENTER: __ __ __ __ __ __

From ZIP Codes County of Residence	Freq.	Percent	Cum.
San Francisco	228	39.45	39.45
San Mateo	199	34.43	73.88
Santa Clara	67	11.59	85.47
Alameda	84	14.53	100.00
Total	578	100.00	

{INTRODUCTION/BACKGROUND}

The San Francisco Water Department manages two watersheds located in Alameda, Santa Clara and San Mateo Counties. These watersheds collect and provide about 15 percent of your drinking water. The Water Department is planning how to manage these watersheds in the future and would like your opinions on water quality, public access, and financing. Your opinions are very important. This interview should take about 10 minutes, and your answers will be entirely confidential. Is now a good time?

{LEVEL OF SATISFACTION AND AWARENESS}

Q1. My first question is: How would you rate the quality of your drinking water -- good, fair, or poor?

Q1 Water Quality	Freq.	Percent	Cum.
Good	318	56.68	56.68
Fair	191	34.05	90.73
Poor	52	9.27	100.00
Total	561	100.00	

>> IF R ANSWERS "POOR," ASK Q1A:

Q1A. Why do you rate it poor? [RECORD ANSWER VERBATIM]
[See Appendix 2 for respondents' answers.]

Q1A 47 of 52 gave answers = 90.4%
47 of entire sample (578) = 8.1%

Q2. Overall, how satisfied or dissatisfied are you with outdoor recreational opportunities in the Bay Area's regional parks, wild lands, and other open space -- very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?

Q2 Recreational Opportunities	Freq.	Percent	Cum.
Very Satis	222	41.73	41.73
Somewhat Satis	264	49.62	91.35
Somewhat Dissat	35	6.58	97.93
Very Dissat	11	2.07	100.00
Total	532	100.00	

Refused, don't know, etc.: 46 = 8.0% of 578

Q3. Overall, how satisfied or dissatisfied are you with protection of the Bay Area's natural environment, such as native plants, wildlife, and open space -- very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?

Q3 Environmental Protection	Freq.	Percent	Cum.
Very Satis	117	21.95	21.95
Somewhat Satis	267	50.09	72.05
Somewhat Dissat	110	20.64	92.68
Very Dissat	39	7.32	100.00
Total	533	100.00	

Refused, don't know, etc.: 45 = 7.8% of 578

Q4. Have you ever visited either of these two watersheds?

Q4 Visited Either Watershed?	Freq.	Percent	Cum.
Yes	308	53.66	53.66
No	266	46.34	100.00
Total	574	100.00	

>> IF "YES," ASK Q4A:

Q4A: Which ones -- the Alameda watershed, Peninsula watershed, or both?

Q4A Which Watershed Visited?	Freq.	Percent	Cum.
Alameda	52	16.83	16.83
Peninsula	200	64.72	81.55
Both	57	18.45	100.00
Total	319	100.00	

Q5. Which goal of watershed management do you think is most important: (A) insuring water quality, (B) protecting the natural environment, (C) providing public access for compatible recreational and educational activities, or (D) reducing costs to the customer? A/B/C/D

(Note: The order in which the responses for Q5 and Q6 were presented was randomly varied in order to avoid biasing responses because of the order of presentation.)

Q5 Most Important Goal?	Freq.	Percent	Cum.
Water Quality	406	71.10	71.10
Environmental Protection	118	20.67	91.77
Reducing Costs to Customers	30	5.25	100.00
Recreational Access	17	2.98	94.75
Total	571	100.00	

Q6. Which goal do you think is next most important? A/B/C/D

Q6 Next Most Important Goal?	Freq.	Percent	Cum.
Water Quality	136	24.37	100.00
Environmental Protection	274	49.10	75.63
Reducing Costs to Customers	100	17.92	26.52
Recreational Access	48	8.60	8.60
Total	558	100.00	

Q7. The Water Department has always restricted public access to the watersheds for recreation in order to protect water quality and safety. People are allowed limited access to parts

of each watershed for activities such as hiking, bicycling, and golfing. Boating, fishing, and camping are not allowed. Opinions differ regarding how much public access should be allowed in the watersheds for recreation. Which of the following best represents your opinion? (A) allow less public access than now, (B) allow about the same level of public access as now, (C) allow somewhat greater public access, or (D) allow much greater public access. A/B/C/D

Q7 How Much Public Access?	Freq.	Percent	Cum.
Less	135	24.68	24.68
Same	326	59.60	84.28
Somewhat Greater	64	11.70	95.98
Much Greater	22	4.02	100.00
Total	547	100.00	

Refused, don't know, etc.: 31 = 5.4% of 578

Q8. I'm now going to read some statements of opinion. For each one, please tell me whether you strongly agree with it, somewhat agree, somewhat disagree, or strongly disagree with it.

Q8A. It is possible to have BOTH high quality water AND more recreational opportunities in the watersheds. Do you...?

Q8A Water Quality AND Recreation Possible?	Freq.	Percent	Cum.
Strongly Agree	108	19.12	19.12
Somewhat Agree	187	33.10	52.21
Somewhat Disagree	141	24.96	77.17
Strongly Disagree	129	22.83	100.00
Total	565	100.00	

Q8B. Allowing more people into the watersheds now will lead to overuse of the watersheds later. Do you...?

Q8B More People Now Lead to Too Many Later?	Freq.	Percent	Cum.
Strongly Agree	233	42.36	42.36
Somewhat Agree	174	31.64	74.00
Somewhat Disagree	106	19.27	93.27
Strongly Disagree	37	6.73	100.00
Total	550	100.00	

Q8C. There are many other places in the Bay Area for people like me to go for outdoor recreation; the Alameda and Peninsula watersheds are not needed for that purpose. Do you...?

Q8C Watersheds Not Needed for Recreation?	Freq.	Percent	Cum.
Strongly Agree	283	50.90	50.90
Somewhat Agree	160	28.78	79.68
Somewhat Disagree	71	12.77	92.45
Strongly Disagree	42	7.55	100.00
Total	556	100.00	

Q8D. Allowing more people into the watersheds will harm the natural environment. Do you...?

Q8D More People Harm Environment?	Freq.	Percent	Cum.
Strongly Agree	295	52.30	52.30
Somewhat Agree	171	30.32	82.62
Somewhat Disagree	77	13.65	96.28
Strongly Disagree	21	3.72	100.00
Total	564	100.00	

Q9. I'm now going to mention various types of recreational activities. For each type, please tell me if you think it should be allowed or not allowed in these watersheds.

Q9A-Q9P ACTIVITY	ALLOWED	NOT ALLOWED	DEPENDS	N
A. Hiking	75%	16%	9%	569
B. Overnight backpacking	28	62	10	569
C. Vehicle camping	11	83	6	572
D. Picnicking	52	36	12	574
E. Fishing	28	59	13	560
F. Hunting	8	88	4	573
G. Jogging	81	14	5	576
H. Horseback riding	38	53	9	573
I. Motorized boating	6	89	5	574
J. Non-motorized boating	39	54	7	576
K. Guided tours	75	18	7	578
L. Mountain biking	41	50	9	572
M. Natural resource studies	92	4	4	575
N. Bicycling	65	27	8	576
O. Golf courses	26	65	9	574
P. Shooting or gun ranges	8	88	3	575

Q10. The Water Department now leases some watershed lands for golf courses and for grazing, quarrying, and nurseries. The revenues from these leases help to offset costs. As with recreation, people have different opinions about these kinds of revenue-producing activities. Which of the following best represents your opinion--(A) allow fewer activities than now and get less revenue, (B) allow about the same level and get as much revenue as now, (C) allow a somewhat higher level than now, with more revenue, or (D) allow a much higher level of such activities and produce much more revenue than now?

Q10 Opinions on Revenue Producing Activities	Freq.	Percent	Cum.
Allow Fewer	111	20.15	20.15
Allow Same	314	56.99	77.13
Allow Some More	105	19.06	96.19
Allow Much More	21	3.81	100.00
Total	551	100.00	

Q11. I'm going to mention various types of revenue-producing activities. For each type, please tell me if you think it should be allowed or not allowed in these watersheds.

Q11A-Q11F ACTIVITY	ALLOWED	NOT ALLOWED	DEPENDS	N
A. Public golf courses	35%	53%	12%	568
B. Wholesale plant nurseries	51	37	12	568
C. Cattle grazing	31	61	8	567
D. Sand and gravel quarrying	14	79	7	562
E. Concessions for public services	26	62	12	556
F. Horse stables	30	62	8	572

Q12. Would you be willing to accept additional water treatment in order to provide greater public access?

Q12 Accept More Treatment for Public Access?	Freq.	Percent	Cum.
Yes	226	41.02	41.02
No	325	58.98	100.00
Total	551	100.00	

Q13. There are three basic ways the Water Department can raise the additional money required to pay for facilities, treatment, and protection to support greater public access -- user fees, water bills, and revenue producing activities -- or some combination of these.

Q13A. To pay for greater public access, should the Department charge user fees to those who actually use the watersheds?

Q13A Charge User Fees for Access?	Freq.	Percent	Cum.
Yes	498	88.61	88.61
No	64	11.39	100.00
Total	562	100.00	

Q13B. To pay for greater public access, should the Department increase water bills to customers?

Q13B Raise Water Bills for Access?	Freq.	Percent	Cum.
Yes	126	22.54	22.54
No	433	77.46	100.00
Total	559		

Q13C. To pay for greater public access, should the Department expand revenue-producing activities?

Q13C Expand Revenue Producing Activities for Access?	Freq.	Percent	Cum.
Yes	272	50.84	50.84
No	263	49.16	100.00
Total	535	100.00	

Refused, don't know, etc.: 43 = 7.4% of 578

Q14. Again, assuming that some greater recreational access will be allowed, what is the maximum total additional amount in higher water bills your household would be willing to pay each month for water treatment and protective services?

$ ____/month. {NOTE: IF R GIVES AN AMOUNT, SKIP TO Q15.

Q14 How Much More/Mo. for Access?	Freq.	Percent	Cum.
$0	194	52.86	52.86
$1-$5	130	35.42	88.28
$6-$10	25	6.81	95.10
$11-$20	13	3.54	98.64
>$20	5	1.36	100.00
Total	367	100.00	

Refused, don't know, etc.: 211 = 36.5% of 578

{NOTE: IF R CAN'T/WON'T ANSWER, ASK Q14A:

Q14A. Would your household be willing to pay:

1. Nothing extra?
2. $1 to $5?
3. $6 to $10?
4. $11 to $20
5. More than $20?

Q14A If Refused/DK/etc. on Q14, How Much More/ Mo. for Access?	Freq.	Percent	Cum.
$0	51	28.02	28.02
$1-$5	85	46.70	74.73
$6-$10	32	17.58	92.31
$11-$20	10	5.49	97.80
>$20	4	2.20	100.00
Total	182	100.00	

Refused, don't know, etc.: 29 = 13.7% of 211 respondents asked Q14A

Q15. How often do you and members of your household engage in such outdoor activities as hiking, fishing, or camping each year? Never? Once or twice a year? 3-5 times a year? 6-10 times a year? More than 10 times a year?

Q15 No. of Outdoor Activities Per Year	Freq.	Percent	Cum.
Never	113	19.58	19.58
1-2/year	148	25.65	45.23
3-5/year	95	16.46	61.70
6-10/year	66	11.44	73.14
>10/year	155	26.86	100.00
Total	577	100.00	

Q16. How many people live in your household?

_____ PERSONS

Q16 Number in Household	Freq.	Percent	Cum.
1	82	14.19	14.19
2	175	30.28	44.46
3	102	17.65	62.11
4	136	23.53	85.64
5	53	9.17	94.81
6 or More	30	5.19	100.00
Total	578	100.00	

Q17. Do you own or rent your residence?

1 OWN
2 RENT ----> IF YES, ASK Q17A

Q17 Own or Rent?	Freq.	Percent	Cum.
Own	330	57.39	57.39
Rent	245	42.61	100.00
Total	575	100.00	

Q17A. Do you pay your own water bills? YES/NO

Q17A If Rent, Pay Own Water Bills?	Freq.	Percent	Cum.
Yes	103	42.04	42.04
No	142	57.96	100.00
Total	245	100.00	

Q18. What is the highest level of schooling you have completed?

Q18 Level of Schooling	Freq.	Percent	Cum.
Grade School	12	2.09	2.09
Some High	24	4.19	6.28
H.S. Grad	76	13.26	19.55
Some College	138	24.08	43.63
College Grad	164	28.62	72.25
Some Graduate	27	4.71	76.96
Grad Degree	132	23.04	100.00
Total	573	100.00	

Q19. How old were you on your last birthday?

Q19 Age	Freq.	Percent	Cum.
16-29	94	16.26	16.26
30-49	293	50.69	66.96
50-69	137	23.70	90.66
70+	54	9.34	100.00
Total	578	100.00	

Q20. What was your approximate total household income before taxes last year?

Q20 Household Income	Freq.	Percent	Cum.
<$15K	52	10.88	10.88
$15-$25K	52	10.88	21.76
$25-$40K	101	21.13	42.89
$40-$60K	107	22.38	65.27
$60-$80K	63	13.18	78.45
>$80K	103	21.55	100.00
Total	478	100.00	

Refused, don't know, etc.: 100 = 17.3% of 578

Q21. What race or ethnic group do you identify with?

Q21 Ethnicity	Freq.	Percent	Cum.
White	356	63.23	63.23
Chicano/Latino/Hispanic	65	11.55	74.78
African American	25	4.44	79.22
Chinese	49	8.70	87.92
Japanese	13	2.31	90.23
Southeast Asian	5	0.89	91.12
Filipino	16	2.84	93.96
Other Asian or Pacific Islander	9	1.60	95.56
Native American	2	0.36	95.91
Other	23	4.09	100.00
Total	563	100.00	

Q22. That was my last question. Do you have any last comments or suggestions you'd like to make before we end?
[See Appendix 2 for respondents' comments.]

	Freq.	Percent
Q22 Comments Recorded	192	33.22
Total	578	100.00

Q23. GENDER MALE/FEMALE

Gender	Freq.	Percent	Cum.
Male	275	47.58	47.58
Female	303	52.42	100.00
Total	578	100.00	

SAN FRANCISCO WATERSHED MANAGEMENT PLANS

PUBLIC OPINION ON WATERSHED MANAGEMENT ISSUES

A Survey of Households Served by the San Francisco Water Department

Conducted for the San Francisco Water Department by the Public Research Institute, San Francisco State University, in cooperation with EDAW, Inc. and Public Affairs Management

APPENDIX 2. RESPONDENTS' COMMENTS

Respondents were asked for comments at two points in the interview, once to explain a "poor" rating of their drinking water (Q1A: 47 comments), and at the end of the interview (Q22: 191 comments). The comments they offered reveal a wide range of opinions about water quality, the issues raised in the survey, and the survey itself.

Comments originally in Chinese or Spanish have been translated into English.

Item Q1A.

Q1. My first question is: How would you rate the quality of your drinking water--good, fair, or poor?

IF R ANSWERS "POOR," ASK Q1A: Q1A. Why do you rate it poor?

The majority of respondents (91%) rated their water quality "good" or "fair"; 9% rated it "poor." Those who rated it "poor" were asked why. Their responses follow on pages A-14 and A-15.

Respondent's ID no.	Comments (47)
0008	It has a smell, it's not clear, and it looks stained.
0044	I couldn't make coffee with it, terrible aftertaste, inconsistent quality.
0056	It tastes bad.
0088	Because it's human treated and full of chemicals.
0161	The way it smells and tastes.
0221	The taste, the look, and it's unfluoridated and leaded levels are a concern.
0350	Because it smells badly, and it doesn't taste good at all.
0483	The water has bleach in it.
0534	It's full of air bubbles and looks horrible.
0558	Water tastes bad even though my pipes are new.
0607	Tastes terrible.
0655	Not drinkable.
0659	Because I get sick if I don't boil the water before drinking it.
0769	Because it tastes very bad.

0775 Because it comes out black, it isn't good to drink, we only use it to bathe.
0795 Hard water tastes nasty.
0849 Bad taste and sediment in water.
0911 It does not taste good.
0947 It smells and tastes bad, and the temperature of it is very warm.
0956 I do not feel safe drinking the water at all.
0972 Tastes terrible and there is lead in the water.
1133 Tastes like chlorine, and has a terrible aftertaste.
1222 Lots of sediment in the water. It's very hard.
1316 Tastes terrible. I have to buy bottled water.
1378 It doesn't taste good.
1413 It's hard water, it's not like Marin water.
1446 I have NSA (water filter) to improve the water because sometimes it tastes a little fishy.
1513 It's full of sediment, red gumminess, must buy bottled water.
1524 Sometimes it is brown.
1542 The taste and aftertaste I don't care for.
1593 I had a glass this morning and it was like drinking swimming pool water.
1643 Tastes terrible, but not as bad as last year. The rating system is not very good, you need to give more information.
1883 Tastes bad, I have stomach problems so I must buy my own water.
1925 It did not taste good.
1999 Tastes like crap. I had to buy a filter to drink the water.
2019 It is not good to drink because it doesn't come out clean.
2042 The taste is very bad. It seems to be very impure. It has a strange color to it, it is not clear.
2074 The water is not clean, it tastes bad.
2196 It tastes funny.
2209 I have to boil my water to drink it. It could be the old piping. When I run the water it's kind of foamy.
2212 Tastes and smells strange, poor quality.
2313 It tastes funny.
2327 It tastes awful, and we have to use bottled water for drinking.
2382 Tastes bad, sometimes the color is strange, sometimes it has odor.
2432 Too much alkaline.
2509 I feel it has a pretty high chlorine and sediment content, and it is cloudy.
2639 Because it smells, and it doesn't taste good.

Item Q22. *That was my last question. Do you have any last comments or suggestions you'd like to make before we end?*

Respondent's ID no.	Comments (191)
0008	This interview is very important because I am from a different country. I didn't even know where the water came from or the activities that goes with that. I have really learned.
0028	Environment could be better. The park across the street with tall grasses and weeds.
0044	A couple of questions were kind of confusing. It is hard to answer some of the questions without knowing the current level of revenue. It would be nice to know the size of the watersheds.
0070	It is excellent to give opinions, very concise, easy to follow, informative. I am glad the work is to be done, professional and friendly.
0075	We like the availability of the watersheds now. We use it for hiking.
0079	No golf courses and no quarrying.
0088	Stick to your job when you get customers like me.
0090	The structure of the questions such as the somewhat agree/disagree are not specific enough. If I somewhat agree that means I also somewhat disagree.
0104	The best is not to increase the water bill. Not to increase it each year.
0120	It seems to me that the protection of the watershed really has to be protected, although you realize that there is great pressure to allow people in. The primary goal should be protection.
0122	I don't believe we need greater access to the watersheds due to the many national parks and other recreational sources.
0135	There should be no greater public access to Crystal Springs Reservoir. It's a recreational area--there are many other beautiful places and locations to go. Leave our drinking water alone. There is enough access as it is.
0139	I think we need to preserve whatever we can preserve.
0169	Water is going to become more and more valuable. We should think.
0190	I live in Redwood City but I work in Livermore, where the water quality is much lower. You would hate to see it go down.
0197	Comment shorter.
0199	Service and water very good here, the best I've had. Need to use water much more because of disability.
0202	Don't want it to be used for more recreation.
0217	I would like to see population growth control in the area around the Bay Area. Also need pollution control. Curb government spending so my tax bills won't keep going up.
0228	People who want to spend time at the watershed should pay for it.
0237	I would be glad to see the Water Department continue to provide a quality product and not to over allow public access because it would hurt the environment.

0248 There were some questions that precluded some other options such as raising existing fees on existing revenue-producing activities.

0258 I think the Water Department should cut down costs somewhere else, rather than considering charging the customers.

0277 I pay my water bill to Palo Alto, what is connection between Palo Alto and SFWD? Why was my phone number selected?

0280 I would prefer to see the questionnaire in writing. I'm concerned about toxics in the ground.

0285 I think there should be more activities such as water skiing and renting boats, as long as it does not affect the drinking water.

0287 The questions become so simplified, and the interviewer has so little information to provide, that it is difficult to make informed responses. If I was educated in the issues, I would be able to provide informed answers. As it is I can't provide qualified, constructive answers.

0303 I don't think public access needs to be increased. For hunting they should do a lottery for tags for overpopulated species at certain times, including fishing.

0316 I think we have to protect our watersheds at all cost.

0317 I am against more public access, we have enough.

0334 I would prefer that they keep as many people as possible out of my drinking water.

0350 I think you are doing a very good thing.

0359 I want better quality, less chemical taste.

0383 I think that this survey is considerably too long. I also think that many of these questions are misleading.

0386 Golf courses are fine if no gasoline operated carts are used, the club house maintains pollution, and tree cutting and overusage of water.

0406 I am very much against allowing greater public access into the watershed areas.

0417 Leave things the way they are, if you can increase revenue without using more water or ruining the watersheds okay, but don't destroy anymore.

0424 They should check the long term effects of chlorine on people because of the risks of cancer. Most water districts are lax on EPA standards. I am concerned that San Francisco may be also. San Francisco Water Department should check the chlorine levels to see the risks of cancer on some people. Water districts should send out information on water quality to its customers at least annually.

0428 I am not happy with the Water Department's service at all.

0454 Are they thinking of increasing public access to these areas? I think that no one should be allowed to use the reservoir areas, they should be used for drinking water only. I pay too high of a sewer bill.

0462 I'm concerned about the amount of chlorine and chemicals in the water.

0468 I don't like paying for sewage cost. We put a tree in our yard and when we water our plant we have to pay for sewage.

0489 Development or building.

0518 If they recycle and use the water wisely, for necessary uses, we wouldn't have such a problem.
0582 I don't think the city should balance its budget on selling water.
0634 I'd like to suggest I will be willing to pay user fees because it is appropriate.
0654 Our water is so hard it ruins the sink, the chrome and faucet we have to wipe often. The water bill is too high.
0655 Provide drinkable bottled water at a low cost to the public.
0668 I think you consider splitting water quality into solvent and biological water quality. Boats should be allowed. Some of the questions, the choices are not allowed. Golf courses and boats introduce chemicals. Horses, people, and dogs have different chemicals. Management of access, you can bring people into a small part of the area.
0676 I can't say how to increase public access.
0677 I can't imagine how to answer half the questions because I don't use the area. As far as opening it up to public use, I don't know.
0678 Quit asking people their ethnicity background. Everyone is American.
0704 I see those areas not just as a watershed but also as a wildlife sanctuary. We need to keep those areas protected. Please don't destroy those areas. Golf courses, quarrying, etc. could be damaging. What are they mining? Great educational opportunities. Okay to walk dogs on the outside edge, and perhaps a dog area without leashes like Fort Mason.
0752 I think the water bill is too high, even though some households are strict on water use within that household.
0769 Do everything you can to keep things in a stable and natural environment without using more treatment.
0772 Some questions are based on assumptions I do not necessarily agree with, how can I answer?
0777 I am interested in public hearings about the watershed and input from users.
0790 I have a concern about the use of chemical fertilizers on the golf courses, and in the nurseries. What chemicals are used to deter insects and bugs?
0830 I would not like to see greater public access. The water is being polluted and I don't know what future generations will do.
0864 Spend the money more diligently. It doesn't make sense to provide more services and then charge nonusers for them.
0868 Bills vary every month. I'm not sure about how much extra money should be paid.
0875 What the hell happened to our wells? I forgot about the domestic supply of water.
0887 Make sure the water quality is good because it is good for the human body.
0902 Questions need to provide more background information.
0922 I want more information on the reason for this survey, a number to call.
0931 People should not be allowed in the watershed. They pollute the water, and the chemicals to treat the water are bad for us.
0935 I wish the Water Department would lower its prices.

0947 The Water Department should do something about the water in Foster City, it has got to be the worst in the world. Instead of concerning themselves with this other stuff, giving us good drinking water should be first priority.

0954 Are the watersheds short on funds or in danger of maintaining safe water? Is that why this survey is taking place? I don't condone increasing public access if it means that more chemicals will be needed to treat the water.

0956 We don't mind paying more in water bills, but we hope the water can really be safe to drink.

0964 Open the watersheds for more public use and charge users. I think that people should be allowed in the watersheds.

0966 The service from the Water Department is very good.

0967 I am concerned about it being open to the public because of the harm that it would cause to the environment.

0987 The Bay is in bad shape. It has gotten bad in the last ten years. The fishing is very bad.

1000 Take care of our water.

1009 You'd better get the questions right.

1027 I want the same privileges as the politicians do.

1082 Do not raise public access or water bills.

1106 I have this feeling that we sell a lot of water to other places, it is a misuse of the water. Money used for that type of management is destroying our wetlands. The accounting system for the SFWD is a mess. We need a better system for paying bills and trouble shooting.

1116 The watershed should be kept free from public use.

1122 I am concerned about water quality and the environment.

1158 The Crystal Springs lake should be made accessible to the public. I am a native of the area and desire more access to what is available.

1178 No motorboat or fertilizer runoffs.

1182 The sewer charge is too high.

1195 Because of the drought, the cost of water has not been reduced. Now that we have adequate water I would like to see our costs go down.

1248 The Bay Area Regional Trail could go through the watershed without disturbing the water quality. It is a good idea to do it.

1269 I would not like to see any increase in the watershed areas other than horses and hiking--no bikes, fishing, camping, or boating. I think it would be a good idea to have parking areas available on the edge of the watershed areas so that people could walk to the watershed areas; horse trailers as well.

1273 Just how good is the quality of our water?

1307 It's time to allow hiking in the watersheds. Many other watersheds allow access to the watershed areas. Do it now!

1311 Environmental protection and water quality are very important.

1313 Remove the lien on the water bills. The tax is plenty!

1314 Perhaps we could make available more venues for depositing used oil. Making it mandatory for gas stations to accept used oil. This is a main issue with water pollution. When they said there was a shortage, they raised the prices. Why do they raise them again when there is a lot of water, instead of reducing them? Now you're asking us to raise prices again. House values go up and down, why not water?

1316 For senior citizens the water bill is very high.

1377 Start working on a desalination plant where water can be taken from the ocean and purified for customers.

1378 The questions seem weighted, they should be phrased differently to make them easier to comprehend. Otherwise you are doing a good job.

1379 The water tastes bad, especially in the morning because of old pipes.

1382 I am a senior and I think the Water Department should charge less for seniors.

1386 Certain questions are slanted, it did not allow for variation in responses.

1387 Lower the prices, it's getting crazy. You ration, raise the prices, etc.

1390 I agree with the policy of less access to the watershed to preserve the watersheds.

1407 They should have more control as people and companies use the water.

1438 Everything has to be in moderation in regards to allowing access to the park.

1454 We all should be willing to pay additional water bills to insure a better quality of water.

1459 Los Angeles should build their own watersheds.

1471 The water bills are way too high.

1474 I am very satisfied with the place I go, and feel people respect it as is.

1478 I think the Bay Area is blessed with all kinds of activities, and many areas don't have the opportunity for the outdoor activity as we do.

1513 No extra bureaucracy. Do good with water.

1517 Don't change anything, if it's working well don't bother with it.

1550 I would like to see more natural activities on the watershed. No golf courses, which take up a lot of space, and poisons the ground. I don't want trash or motor oil on the ground.

1593 I think some of the buzz words overlapped.

1598 Increase the quality of the water. Several of us in this area have to purchase water because quality is low.

1606 When you ask more questions could you please be more specific like "Water Activities"--water slides or what?

1612 I marvel at how good the water has always been the last 15 years in Hayward, but with the drought ending the water does not taste the same as before, why?

1623 Just send information before conducting an interview. It was too long and people don't know what it's about.

1638 I use bottled water all the time. I don't like the taste of the water, it is very different on the other side of the Peninsula.

1643 I think these questions can only be answered by the Water Department. If they study this stuff, they can send you a survey. It is hard to know how to answer without knowing any background. I am not educated enough to answer all these questions.

1664 I feel that I'm being overcharged.

1665 I'm glad that recreational uses are being considered. I visit the Calaveras watershed, and I feel like I'm on the outside looking in. It is totally restricted. I don't feel comfortable because I can't even stop to watch wildlife or whatever. It states clearly that no loitering is allowed. It just seems like I could never spend the time I want to.

1676 Be careful with access to watersheds.

1682 I think the watershed area should have restricted access to keep the water clean.

1684 Most important is the environmental impact, then we'll do it.

1691 San Francisco is known in the Bay Area for having good drinking water and I want to keep it the best natural area. By bringing other activities into the area where the water is stored will naturally bring pollution to that area. The Bay Area has plenty of recreation available for people that there doesn't need to be more access to this area! More access just means more possibility for pollution.

1718 I hope that they use common sense in their decision.

1730 Just on water quality, just concerned about what water chemical levels are, whether it is safe. What is the government guideline about whether it is safe--knowing where the water is processed? I'd like to know more information about safe quality.

1738 These studies are very important. Many people don't know how important water care is. I like these questions.

1766 Keep people away because we are the ones causing all the pollution.

1816 Households should not assume the cost of watershed users. The water bill is too high.

1817 We need better water quality. This is very important. Need consistent type of billing, it's not very accurate. We need people who know what they're doing about measuring water usage for water bills. Water is very important--you can't live without it.

1831 We have so much focus on the natural environment that we forget that people need to survive. Man is the endangered species.

1834 There are other ways to raise the money than by ruining the reservoirs.

1836 If they are going to allow more people into the water, they should do it with guided tours and public education. Have some sort of licensing process before a person is allowed to go into the watershed. I would rather keep the watershed the way it is because I don't want more pollution.

1839 Keep the standards and reinforcements high.

1841 If you use it, you should pay for it. User fees are a good idea.

1845 I'm pretty satisfied with how the watershed is managed right now. I would like to see them opening up to well-managed access.

1862 The way the survey is set up, the responses become biased to the effect that what people would do with increased access. If you do not want increased public access, it is not that clear in the survey. I do not want increased public access.

1866 I feel like a golf course would only be for a limited amount of people. If they want to build it they should pay for the costs of impact. I have three disabilities that are hidden, and I cannot do any physical work or standing for any length of time. I feel like after I knew it was closed (reference to Buddha Temple near Crystal Springs Reservoir), it was like when I was working and paid taxes. I didn't get a return on my tax money since I can't use it now. It is kind of a shame that you have natural land and open space and can't use it. The Water Temple is filled with drug users and I can't use it.

1879 I think the survey is great because it gives us a chance to express our opinion about the environment.

1883 People with large amounts of bank allocations left should be rewarded or reimbursed for following Water Department imposed regulations.

1925 Why don't you conduct the survey in the morning?

1933 I'd like to keep motorized vehicles out of those areas, and motorboats out of watersheds.

1935 I think that thing about additional studies provides the feedback about what is happening and where you are going.

1938 Watersheds should just be left alone. I think it would be hard to let people in, because once you let people in other groups will try to get in. It is a bad idea. There are parks, the ocean, and the bay in the Bay Area. The worst thing is the golf courses, just leave the bloody things alone.

1942 The Water Department must look into the additional activities. They must consider all of the ramifications before settling on their decisions.

1968 Everything possible should be done to give us the best drinking water possible.

1970 The plant nurseries should be for native plants only. I am in favor of making the area available, but it needs to be very carefully planned to assure quality control.

1975 I'm glad that this survey is being taken strongly. I believe that Hetch Hetchy water resources deserve the highest degree of protection.

1979 The survey is too long! Don't raise rates of water bill because it's too high.

2007 I used to be part owner of a fishing boat. Regardless of how hard we tried to keep pollution from going on, we would get someone with a six pack of beer and they would pollute. Keep the people out of the watersheds because they don't know how to respect it.

2022 The drinking water they are delivering in the water is from tap water, how can we be assured that this is spring water and what is the difference? I'm told they are cheating the public.

2056 We live by Crystal Springs so I'm glad they're asking the public what they think.

2057 We have had such a tremendous price increase as it is. I conserve as best as I can and it troubles me to think about having to pay more money.

2058 Having a meeting forum would be helpful, and additional questionnaires and surveys would be helpful too.

2059 When I think of additional water recreational facilities, I don't think of the reservoirs as a place where that would be provided. Parks, pools, and man-made lakes are okay.

2060 I think there should be more activities to preserve the natural environment.

2068 Keep my Crystal Springs watershed as natural as possible.

2151 I don't think the watershed should be open to the public. There are lots of other places to hike. It sounds like you want to open the watersheds to the public.

2196 They try to use every excuse to charge us more for water bills. I do not think that's right.

2211 It is hard to answer the questions without background information or without really thinking about it. Some of the responses may be inaccurate, because this is a complicated survey.

2224 I think the water should be protected from the public, and not expand the use.

2225 It is good for you guys doing this right now. It is just perfect. There are lots of places for people, there should be access to it.

2230 I hope that they don't expand too much use there. I think that Crystal Springs and other reservoirs are serving their purpose well.

2240 Water conservation is more important than recreational activities.

2270 Thank you, I appreciate the Water Department for conducting this survey. I appreciate SFSU for being a part of it, and I appreciate the interviewer for completing the survey in ten minutes.

2272 Keep the water as pure as possible, keep safe the natural environment, keep water as pure as possible, keep environment safe.

2298 Why do we want to add more costs to an already costly and not very prolific resource, and therefore making it even more costly?

2300 It's a shame that the Crystal Springs Reservoir can't be used without spoiling it in any way.

2318 Natural resources are most important.

2320 Why haven't rates come down since the drought is over?

2344 We don't try the water, we drink only bottled water. Insure that water supply continues, and leave it untreated, and that is number one for us.

2352 I don't think that motorized boats are good for the animals.

2413 I don't like the questions with regard to increasing access or use. It implies consent to that.

2422 The water system today is exceptional.

2430 I do not want greater public access. It pollutes the water we drink.

2434 I think that the access should be paid for by the people who use the place, and additional fees should be paid for by those people.

2441 This is good.

2443 I'm a Hayward resident and I approve of the way the Water Department is going about asking their customers about the land and water usage.
2449 I do not want increased public access, it would ruin the water.
2466 More background information would be helpful. It would be easier to answer questions as far as public access.
2470 I want nice, clean, drinkable water.
2472 Keep the water pure and hit the people that are contaminating it.
2477 The main thing is to maintain the quality of the water. Do not provide more public access to the watersheds.
2509 I'm not in favor of increasing public access to watersheds. I would be in favor of increased revenue-producing activities to increase water quality overall, but not just to allow greater public access.
2521 Mark trail heads better to encourage people to stay on them.
2547 Questionnaire could use some help. It is good that someone is doing research, and I hope that there is more access to Crystal Springs.
2556 I appreciate the Water Department research and thoroughness in preparing to make these decisions about increasing access to watersheds.
2579 No access whatsoever to reservoirs.
2611 I would like Crystal Springs to be opened more to the public, but not a whole lot more. I would like to see more access for hiking trails like Sawyer Creek Road. And more dirt trails on the other side of Sawyer Camp Road and on the other side of the reservoir.
2628 Improving water quality is very important for the environment.
2637 I know that there was another golf course to be opened. Golf course recreation creates a lot of revenue without harming the environment if properly cared for.
2646 I hope you can take care of the water because sometimes I step back and it looks as if two dirty children have taken a bath in it.
2679 Some questions are contradictory, it all depends.

SAN FRANCISCO WATERSHED MANAGEMENT PLANS

PUBLIC OPINION ON WATERSHED MANAGEMENT ISSUES

A SURVEY OF HOUSEHOLDS SERVED BY THE SAN FRANCISCO WATER DEPARTMENT

Conducted for the San Francisco Water Department by the Public Research Institute, San Francisco State University, in cooperation with EDAW, Inc. and Public Affairs Management

APPENDIX 3. SAMPLING AND OTHER TECHNICAL ISSUES

1. Sampling

A sample of persons in 578 households was interviewed. The response rate was 49.7% of the persons successfully contacted by an interviewer and eligible and able to complete an interview.

The sample frame consisted of 2,628 randomly generated telephone numbers, provided by Survey Sampling, Inc., with area codes and prefixes located in postal ZIP codes served by the San Francisco Water Department. The interview questionnaire was written in English and translated into Spanish and Chinese. Respondents who spoke Spanish or Chinese (either the Cantonese or Mandarin dialect) were given the opportunity to be interviewed in their native language.

The 578 interviews completed included 48 conducted in Spanish or Chinese--8.3% of the total. Table A-1 provides a breakdown of these interviews by the language or dialect in which they were conducted. These 48 interviews almost certainly would not have been conducted if the questionnaire had not been translated and interviewers had not been available to conduct interviews in those languages, and their inclusion in the sample significantly improves its representativeness.

Table A-1. Foreign-Language Interviews

Language	*Frequency*	*Percent*
Spanish	26	57.9
Cantonese	19	34.2
Mandarin	3	7.9
Total	48	100.0

The survey was conducted in the two week period beginning Sept 18, 1993 and ending October 3, 1993. Interviews were conducted at the Public Research Institute's Computer Assisted Telephone Interviewing (CATI) facility. Data collection and call scheduling were accomplished through use of Computer Assisted Survey Execution System (CASES) software. Respondents were called up to 20 times at

varying times and on varying days of the week, including weekends, in an attempt to contact as many households in the sample frame as possible. Table A-2 summarizes the outcomes for all telephone numbers called as of the end of interviewing.

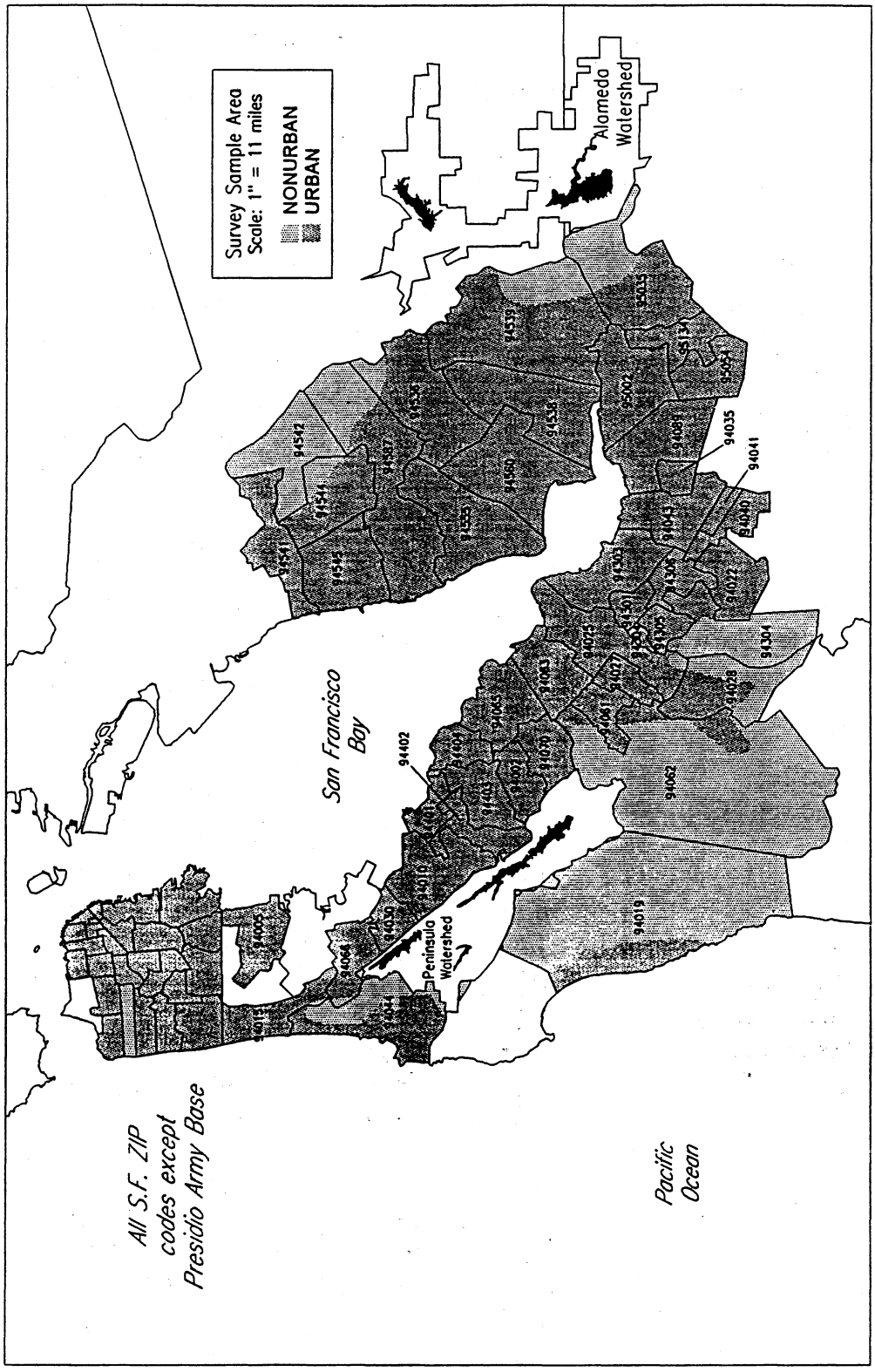
Table A-2. Final Outcomes for All Telephone Numbers Called

Final Outcome	*Frequency*	*Percent*
Eligible for interview		
Refused to participate	584	22.2
Completed interview	578	22.0
Not eligible for interview		
Called, no answer	628	23.9
Disconnected or not a voice number	432	16.4
Not a household or not in service area	325	12.4
Unable to interview*	81	3.1
Total	2628	100.0

* "Unable to interview" includes persons who spoke languages other than English, Spanish, Cantonese or Mandarin; or who had a speech or hearing impairment.

The overall response rate was calculated by dividing the total number of completed interviews by the total number of respondents known to be eligible (completed interviews plus refusals): 578/(578 + 584) = 49.7%, an acceptable standard for public-policy interviews of this kind.

Map A-1 shows the ZIP codes for the areas sampled. The distribution of completed interviews over ZIP codes is shown in Table A-3. The observations are well spread out over the service area--random selection produces some clustering in any case--and concentrations of cases correspond well to concentrations of population.



Map A-1. ZIP Codes Surveyed

Table A-3. Sample Frequencies by ZIP Codes

ZIP Code	*City**	*Number in Sample*	*Percent of Sample*	*ZIP Code*	*City**	*Number in Sample*	*Percent of Sample*
94002	Belmont	5	0.87%	94117	San Francisco	14	2.42%
94005	Brisbane	2	0.35	94118	" "	18	3.11
94010	Burlingame	21	3.63	94121	" "	11	1.90
94015	Daly City (part)	22	3.81	94122	" "	18	3.11
94019	Half Moon Bay	4	0.69	94123	" "	11	1.90
94022	Los Altos Hills	7	1.21	94124	" "	6	1.04
94025	Menlo Park	10	1.73	94127	" "	10	1.73
94027	" "	1	0.17	94131	" "	12	2.08
94028	" "	2	0.35	94132	" "	8	1.38
94030	Millbrae	2	0.35	94133	" "	4	0.69
94035	Moffett Field	0	0.00	94134	" "	6	1.04
94040	Mountain View	10	1.73	94301	Palo Alto (incl.	6	1.04
94041	" "	6	1.04	94303	E. Palo Alto and	15	2.60
94043	" "	9	1.56	94304	Stanford U.)	1	0.17
94044	Pacifica	14	2.42	94305	" "	1	0.17
94061	Redwood City	14	2.42	94306	" "	12	2.08
94062	" "	12	2.08	94401	San Mateo	7	1.21
94063	" "	11	1.90	94402	" "	9	1.56
94065	" "	2	0.35	94403	" "	14	2.42
94066	San Bruno	9	1.56	94404	Foster City	11	1.90
94070	San Carlos	12	2.08	94536	Fremont	8	1.38
94089	Sunnyvale (part)	3	0.52	94538	" "	5	0.87
94102	San Francisco	6	1.04	94539	" "	10	1.73
94103	" "	5	0.87	94541	Hayward	4	0.69
94104	" "	0	0.00	94542	" "	2	0.35
94105	" "	0	0.00	94544	" "	9	1.56
94107	" "	3	0.52	94545	" "	11	1.90
94108	" "	2	0.35	94555	Fremont	8	1.38
94109	" "	12	2.08	94560	Newark	18	3.11
94110	" "	21	3.63	94587	Union City	9	1.56
94111	" "	1	0.17	95002	Alviso	0	0.00
94112	" "	28	4.84	95035	Milpitas	11	1.90
94114	" "	10	1.73	95054	Santa Clara (part)	1	0.17
94115	" "	8	1.38	95134	San Jose (part)	0	0.00
94116	" "	14	2.42	Total		578	100.00

* Includes unincorporated areas adjacent to some cities.

2. Missing Values, Refusals, "Don't Know" Responses, Etc.

Missing values because of failure to ask questions or to record or transcribe responses were held essentially to zero for this survey because interviewers asked questions directly from a computer terminal which controls the presentation of questions, and they entered responses directly into the computer, which requires an entry to advance to the next question and screens out many kinds of erroneous entries. Preparation of data for analysis was also handled entirely by computer, with no transcription of data from paper forms, which is prone to error.

Refusals and "don't know" responses do occur. Some respondents simply don't know how they feel about an issue, and some refuse to answer sensitive questions. In this survey, refusals to answer, "don't know" or "not sure" responses, and the like, greater than 5% were encountered on only seven questions (Table A-4).

Table A-4. Refusals, Don't Know, Etc.

Item		*Percent refused, don't know, etc.*
Q2	Satisfaction with recreational opportunities	8.0%
Q3	Satisfaction with environmental protection	7.8
Q7	Preference for degree of public access	5.4
Q13C	Expand revenue producing activities for access?	7.4
Q14	How much more/mo. pay for access?	36.5
Q14A	How much more/mo. pay for access?--asked only of respondents who had already refused to answer or answered "Don't Know" to Q14	13.7
Q20	Income	17.3

Refusals/don't knows at these levels are not a problem; they are for the most part probably genuine "don't knows," except for the sensitive question of income. Although the pretest had brought out some sensitivity on the question about ethnicity (Q21), only 15 people, 2.6% of the 578 respondents in the survey proper, refused to answer this question.

Responses to questions about allowing particular activities in watersheds (Q9 and Q11) contained fewer than 5% refusals/don't knows. These questions presented response options of "Allowed" and "Not allowed," set forth in the main question before responses to each activity were requested. Respondents who said "Depends" were recorded as "Depends"; in

addition, respondents who were initially reluctant to choose "Allowed" or "Not allowed" for a particular activity were prompted with, "Would you say Allowed, Not allowed, or Depends?" "Depends" drew between 4% and 13% of responses to the activities questions. Prompting for "Depends" probably reduced substantially the number of refusals and don't knows that otherwise would have been recorded.

Because responses of refused, don't know, etc., occurred at low levels, they have been omitted from most presentations of data in this report. Percentages were calculated and relationships assessed on the basis of responses to the categories presented by the questionnaire.