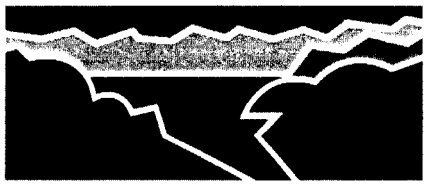
REGIONAL FLOOD CONTROL DISTRICT



Clark County Regional Flood Control District
2003 Flood Awareness Survey

Final Report

Prepared By

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Las Vegas, Nevada

November 1, 2003

Clark County Regional Flood Control District
2003 Flood Awareness Survey (N=492)

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Clark County Regional Flood Control District
2003 Awareness of Flash Flooding Survey (N=492)

Project Background

To support the Clark County Regional Flood Control District's mission "to improve the protection of life and property for existing residents, future residents, and visitors from the impacts of flooding," the District relies upon a Public Information Program to educate Clark County residents and visitors on the possible occurrences, impacts, protection measures, and dangers associated with flash flooding.

An important component of the Public Information Program is evaluation. In October 1999, the District conducted its first flood awareness study to measure citizen awareness of the dangers of flash flooding in Clark County. The survey has been replicated every year since 1999 and longitudinal comparisons have been conducted.

In September 2003, the District hired Lucchesi Galati Architects, Inc., an architecture, organizational development, and research consulting firm, to design a telephone survey similar to those surveys previously conducted by The Source. Working cooperatively with Clark County Regional Flood Control District's Public Information Manager Betty Hollister, Lucchesi Galati designed a 15-question survey to collect data from randomly selected, English speaking Clark County residents relating to the following topics:

- Awareness of flash flooding in the Las Vegas Valley.
- General knowledge of various subjects relating to flash flooding.
- Sources of flash flooding education and information.
- Behavioral tendencies when encountering a flooded street or road in the Las Vegas Valley.
- Knowledge of the availability of flood insurance.
- Demographics and program recall of respondents who have watched *The Flood Channel.*
- Opinion of how well flood control is being handled in the Las Vegas Valley.

Telephone interviews were completed with 492 randomly selected, English speaking residents of Clark County during the month of October 2003. This Final Report encapsulates the outcomes of the research project by providing the District with a summary of findings and corresponding conclusions and recommendations based on descriptive statistics as well as cross tabulated data.

Research Methodology

After a pilot testing session in the first week of October 2003, the UNLV Cannon Center for Survey Research conducted the telephone survey research using computer-assisted telephone interviewing (CATI) methodology during the period between October 5 and October 25, 2003, on various days of the week between the hours of 3:00 p.m. and 8:00 p.m. The interviews lasted between 5 and 7 minutes and a total of 492 interviews were completed with a margin of error of +/- 5% at the 95% confidence level.

In order to obtain a representative sample of the Las Vegas Valley, numbers were purchased from Survey Sampling, Inc. (SSI). SSI has been providing scientific samples for research since 1977. A list of 3,995 numbers was obtained that included both listed and unlisted working numbers in Clark County.

CATI interviewing may be best described as a "paperless" method of administering telephone interviews. The survey questionnaire was programmed into the CATI network and interviewers were able to administer the questionnaire from individual computer stations. Respondents' answers and other interview information were entered into computerized files as the interview occurred. This method of survey administration provides enhanced sample management, more reliable and less biased survey administration, and near instantaneous generation of survey results.

Random-digit-dialing techniques were used to select respondent households with information developed using the most current telephone exchange data available. (Telephone exchanges may be thought of as the three-digit "prefix" included in any telephone number.) The sampling service maintains a database of "working blocks," where a "block" is a set of 100 contiguous numbers identified by the first two digits of the last four digits of a telephone number. For example, in the telephone number 346-7300, "73" is the block. After the blocks were verified to contain residential phone numbers, phone numbers were randomly generated from each block. This procedure allowed the inclusion of unlisted numbers and any newly listed numbers that have not been included in the most recently published telephone directories.

The interviewers made up to five attempts on each number. These attempts were made at different times of the day and different days of the week. In addition, all respondents were given the opportunity to complete the survey at another time. Research has shown that offering respondents the opportunity to schedule a pre-planned telephone interview at a later point in time can greatly increase cooperation and willingness to participate in the study.

Research Methodology

Household refusals were tracked and the most experienced interviewers attempted to convert these telephone numbers where a respondent had previously refused, into a completed interview. All numbers that resulted in a refusal were contacted up to two additional times for a completion.

The phone numbers were preloaded into the CATI system and the call dispositions were entered and tracked by the CATI system. This allowed the supervisors to have immediate access and tracking for the re-calls and callbacks and overall enhanced call tracking capabilities. The recorded call dispositions have been provided below for your review.

Disposition	N	%
Completed	492	12.32%
Business	310	7.76%
Cell Phone	3	0.08%
Not in Service	762	19.07%
Not Eligible	16	0.40%
Partial interview	10	0.25%
Soft Refusal	274	6.86%
Hard Refusal	119	2.98%
Fax	322	8.06%
Language Barrier	81	2.03%
Callback	34	0.85%
Answering Machine	856	21.43%
No Answer	591	14.79%
Busy	125	3.13%
Total	3995	100.00%

The Survey Center utilizes CATI software designed by Raosoft, Inc. After the survey instrument was finalized, the questions were programmed into a form that encompasses relevant skip patterns and branches. In addition to the survey introduction, the front end of the form was programmed with project specific respondent selection and screening pages to guide the interviewer while interviewing the selected respondent. The software also has a feature that allows for the programming of "pull down" help menus to provide the interviewers with additional information, if necessary, at specific locations in the program form. This feature assures that all interviewers answer a respondent's query from the same point of reference, provide uniform information, and minimize interviewer bias.

RESEARCH METHODOLOGY

The Survey Center uses up to 27 workstations. The interviewing staff, which is comprised of a demographically diverse group of approximately 40 interviewers, received training in interviewing techniques and survey methodology prior to making any calls.

Prior to the work on the survey, the Cannon staff attended a survey specific training session. Training included a refresher session that covered the following topics: a) interviewer roles and responsibilities; b) importance of maintaining strict confidentiality and general principles of survey administration; c) interviewing procedures, including how to probe survey questions and specific guidelines for probing for numbers, precoded questions and any open-ended questions; e) how to maximize respondent cooperation; f) operation of CATI software and g) general administration procedures. Survey interviewers also received detailed training regarding the specifics of this study which included a project overview, study-specific interviewing procedures, and a detailed discussion of the questionnaire contents. Professional staff members were provided with a detailed explanation of the term or questions that needed a precise definition or clarification, such as the definition of "flooded street." These definitions were assembled into an interviewing manual that was distributed to each interviewer and left at each computer station as a reference guide.

In addition to the director and the survey manager, all interviewers were monitored by phone room supervisors. One field supervisor or senior researcher was present at all times during the data collection period to assure the quality and integrity of the data collection process. The phone room supervisor was able to instantaneously address any problems that might arise in the field.

The centralized phone-bank setting allows for continuous supervision by the supervisors and the project director according to the various shifts, thus permitting continuous assessment of interviewer style, their ability to follow specific procedures and instructions, and the quality of probing techniques used for answer elaboration. In this setting, it is possible for the field supervisors to respond immediately to questions from both respondents and interviewers. The supervisors are trained in research methodology and have years of supervisory experience in a CATI environment.

Research Methodology

An interviewer monitoring system was in place, which required the supervisor to evaluate each interviewer's proficiency with respect to specific interviewing skills, such as refusal, avoidance, use of unbiased probing techniques, ability to communicate in a non-judgmental way, as well as speech patterns, tone of voice, and the ability to control the pace and flow of the interview. The supervisors reviewed their assessments with the interviewers providing immediate feedback.

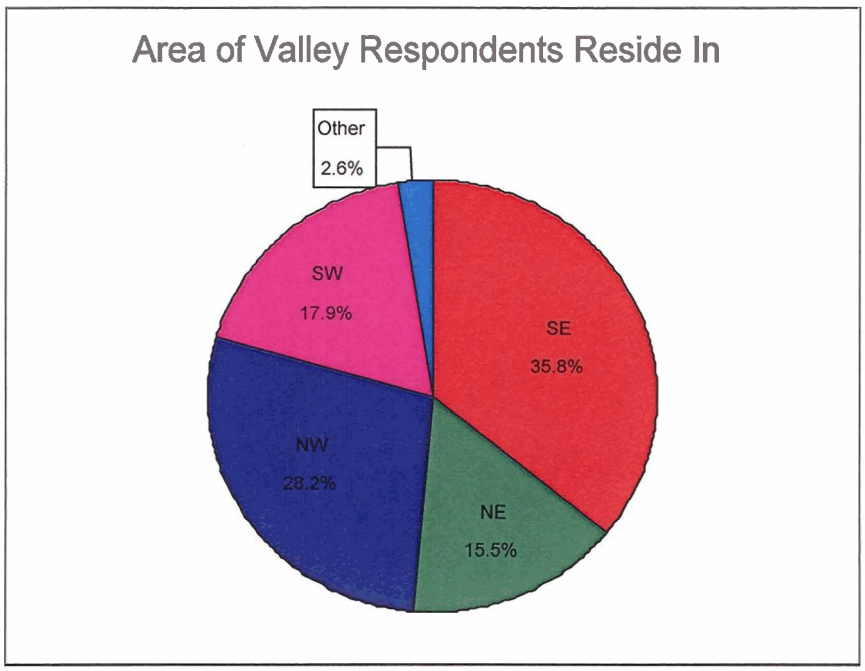
At the conclusion of the interviewing phase, data were cleaned and then analyzed using SPSS 11.5 software. The software is a comprehensive statistical software system that aids the data analysis process at many levels, with procedures ranging from data listings, tabulations, and descriptive to complex statistical analyses. Graphics for screening data, understanding and interpreting analyses, and communicating results are integrated with the statistical procedures.

Project Summary

Characteristics of the Sample:

There were five variables used to create the sub-sets in this survey. They are "area of the Valley," "length of time in the Valley ," "age," "level of education," and "gender." The responses of these groups are included at the end of this report on diskette.

Area of Residency

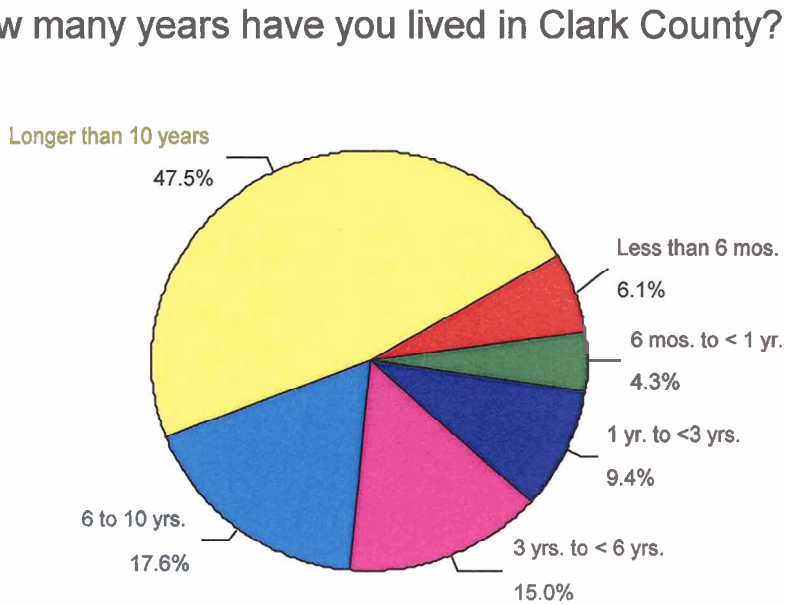


As can be seen from the graph above, 35.8 percent of respondents live in the Southeast section of the Valley (37.1%, 2002), 28.2 percent live in the Northwest (23.9%, 2002), 17.9 percent are from the Southwest part of the valley (18%, 2003), and 15.5 percent of respondents are from the Valley's Northeast (17.5%, 2002) section. This year, 2.6 percent of respondents live in outlying Clark County areas such as Mesquite, Overton, and Logandale (3.5%, 2002).

The zip code map at the end of this report provides the zip code frequencies in graphic format.

Project Summary

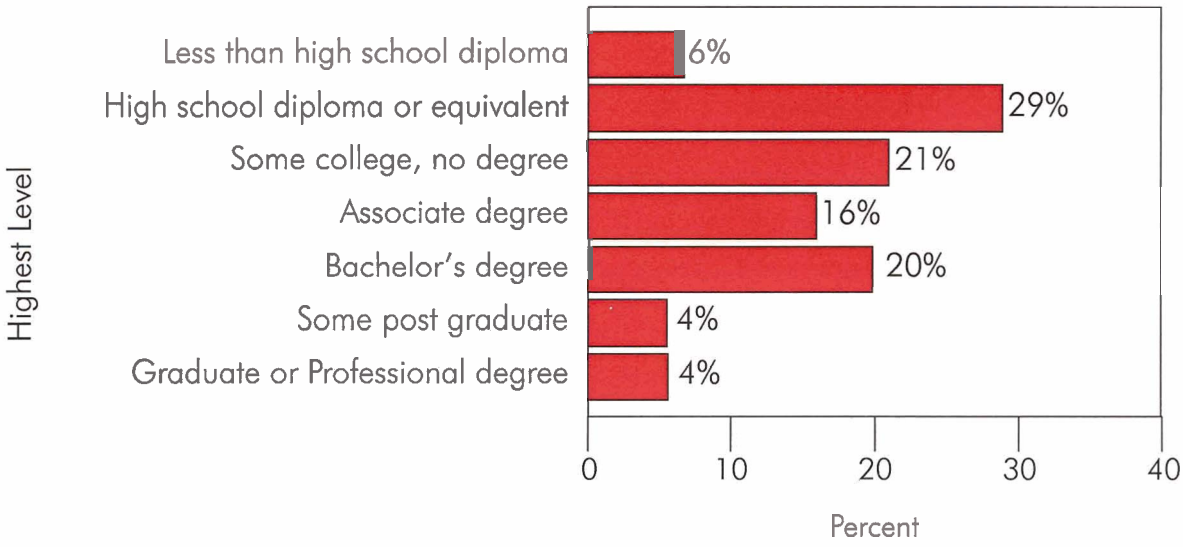
Length of Time Resided in Clark County



As can be seen from the graph above, nearly half (47.5%) of respondents have lived in Clark County longer than 10 years. This is followed by 17.6% who have lived here for between 6 and 10 years, and 15% who have lived here between 3 years and 6 years. A small percentage (6.1%) of the sample has resided in Clark County for less than six months, and an even smaller percentage (4.3%) has lived in the Valley from 6 months to a year. This indicates that 10 percent of the respondents are new residents who have lived in the Las Vegas Valley for a year or less. In addition, 9.4% or respondents have lived here from 1 to 3 years, and 15 percent have lived here from 3 to 6 years.

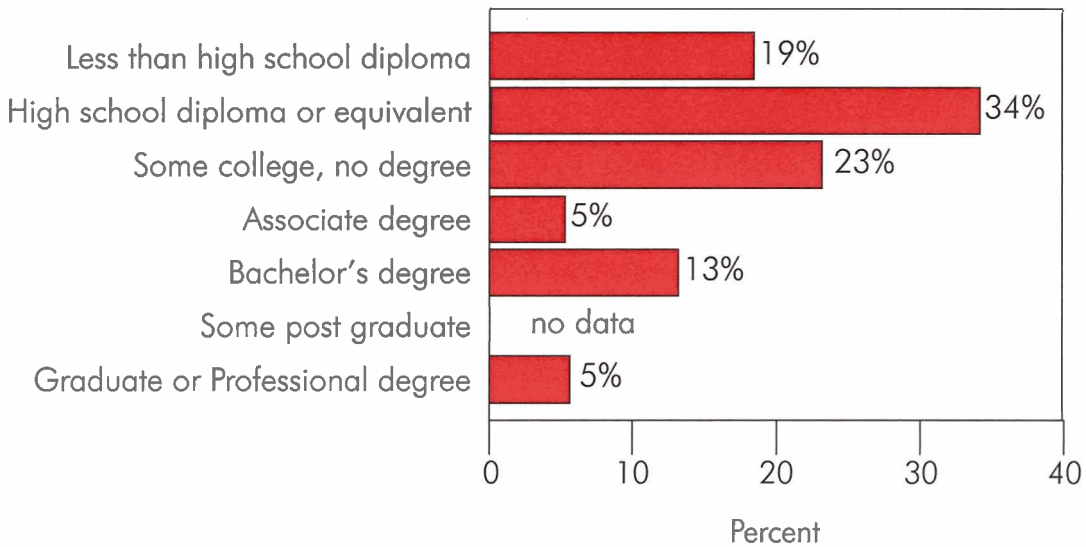
Project Summary

Educational Level of Respondents



The bar chart above represents the self-reported education level of the 2003 Flood Awareness Survey participants. We recommend that the District compare these data to the Clark County education profile (shown below) generated by the American Community Survey 2002 (and substantiated by the U.S. Census Bureau, Census 2000) before making decisions based on the sample data. As noted earlier, we limited our sample to English speaking households, which may be a contributing factor in explaining the difference between the education level of the survey sample and census data.

American Community Survey 2002
The Educational Attainment of People in Las Vegas, Clark County pt., Nevada in 2003



Project Summary

Educational Level of Respondents

The highest incidence for the educational level is 29.3 percent of respondents reported that they received a high school degree. Twenty-one percent have some college or trade school, and an additional 20 percent have earned a college degree from a four-year institution. Nearly sixteen percent are graduates from a junior or community college, while 3.7 percent have completed some post graduate work, and 4.1 percent have earned a graduate degree.

Age and Gender

Respondents, all of whom were 18 years or older, were asked the year in which they were born. After dividing the sample into three approximately equal parts, 35 percent of the respondents are between the ages of 18 and 38. Thirty-one percent are between the ages of 39 and 55 years of age, and 32 percent are age 56 and older. The median age was 46. The division of gender was 43 percent male, and 57 percent female.

According to U.S. Census Bureau, Census 2000 data, 50.9 percent of Clark County's population is male and 49.1 percent is female. The median age is 34.4 years (Note: Census data are collected of all ages including newborns to 18 years.)

Project Summary

Awareness of Flooding and Weather Related Natural Disasters:

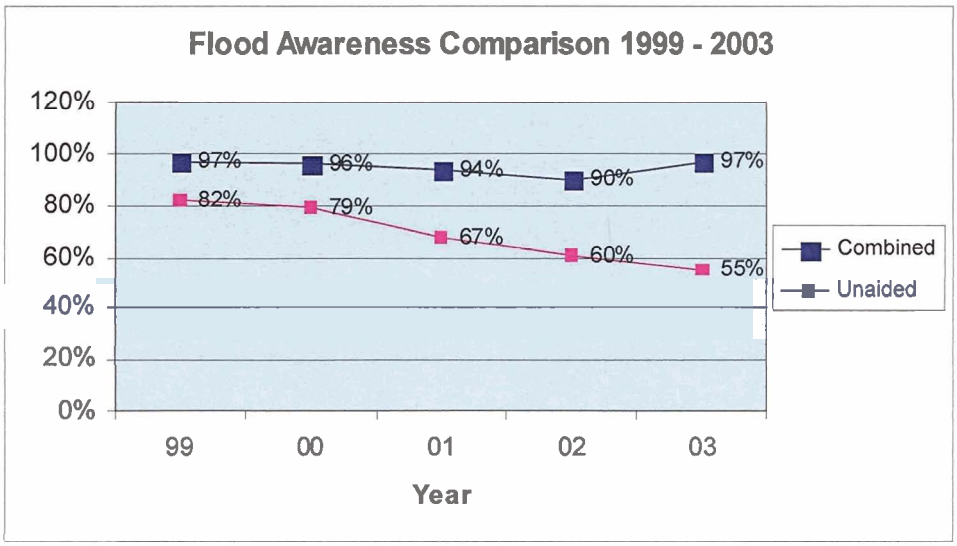
Unaided Awareness: Respondents were first asked if they were aware of any weather related natural disasters that can occur in the Las Vegas Valley. Eighty-three percent of the respondents reported that they were aware that weather related natural disasters can occur in the Las Vegas Valley. Respondents who answered that they were aware of weather related disasters were then asked in an unprompted fashion to name the types of weather related disasters that can occur. Fifty-five percent of respondents who reported that they were aware of weather related natural disasters were able to name "floods" or "flash floods." This represents 46 percent of the sample, and is part of a downward trend since 1999 in respondents being able to mention "floods" or "flash floods" in an unprompted situation.

Aided Awareness: Respondents who reported that they were not aware of weather related natural disasters (17%) and those who did not mention "floods" or "flash floods" in the unprompted question, were asked directly, *"Are you aware that flash flooding can occur here in the Las Vegas Valley?"* Ninety-four percent of this sub-set reported that they were aware that flash flooding can occur.

Combined/Total Awareness: When looking at the total number of respondents in both the prompted and unprompted questions, 97 percent of the sample were aware of flooding as a weather related natural disaster in the Las Vegas Valley.

Project Summary

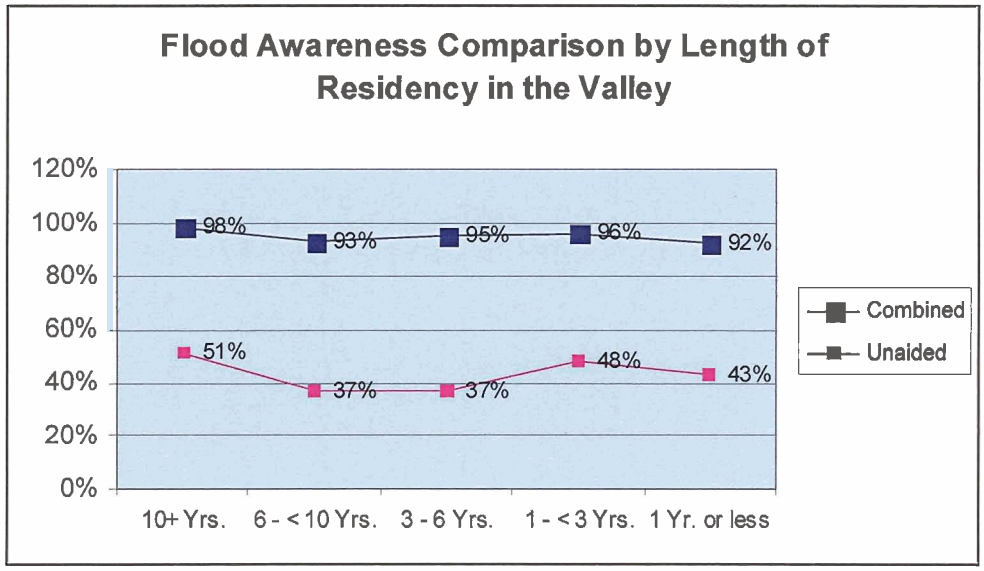
Awareness of Flooding Comparisons to Previous Years



As can be seen from the graph above, combined or total awareness (total of aided or prompted responses) remains fairly constant and very high. The percentage of respondents who was able to mention "flood" or "flash flood" in a prompted situation increased by 7 percentage points between 2002 and 2003 and is equal to the percentage of respondents who was able to mention "flood" or "flash flood" in a prompted question in 1999, the year the Las Vegas Valley experienced the 100 year flood.

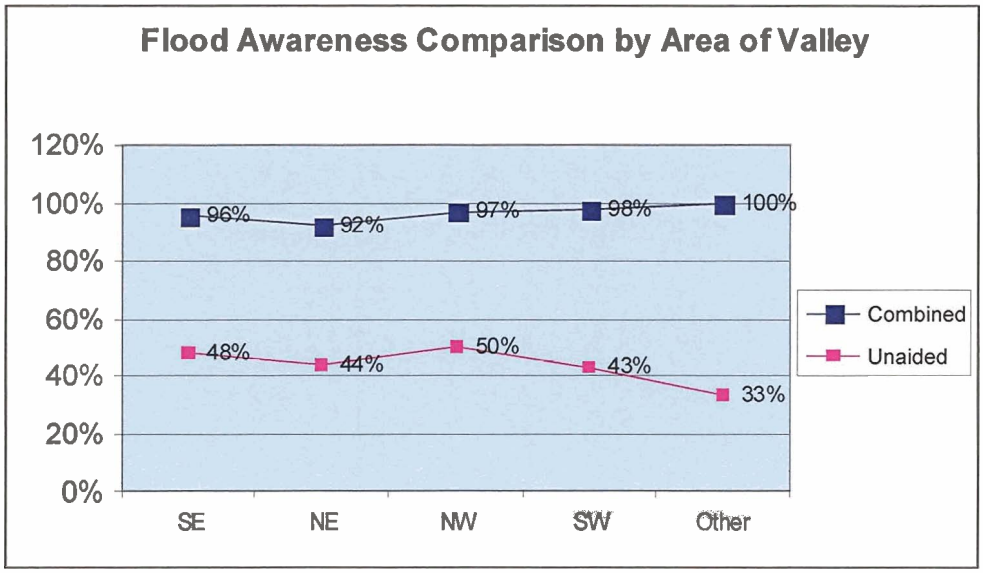
While more respondents were able to mention "flood" or "flash flood" in a prompted situation, the unaided or unprompted response patterns show a downward trend that has been consistent since 1999. There was a difference of 5 percentage points between the number of respondents who could answer "flood" or "flash flood" in 2003 and those who could do the same in 2002. Since 1999, the percentage has decreased by 27 percentage points. In trying to define the reasons for this downward trend of unprompted mentions, the further in time away from the flood of 1999, two possible suggestions are: (1) the lack of rain and flooding (with the exception of the flooding this summer) causes respondents to not think of flooding as a weather related natural disaster, or (2) the floods are being controlled so well that the outcomes of flash flooding do not reach the level classified as a "disaster."

AWARENESS OF FLOODING AMONG THE SUB-SAMPLES



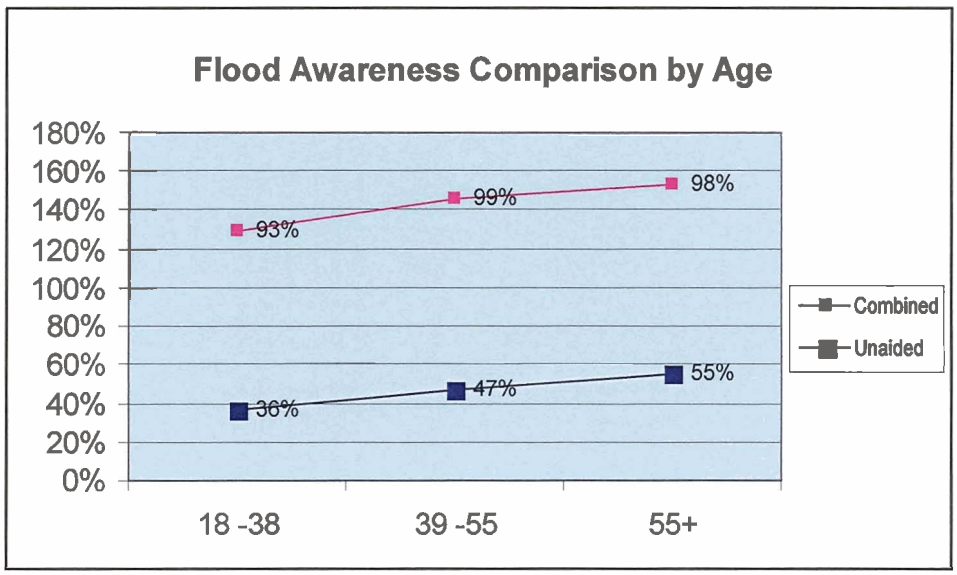
Length of Residency: As can be seen from the graph above, those respondents who have lived in the Las Vegas Valley for 10 years or longer are the most likely to mention "floods" or "flash floods" in either an aided or unaided situation. While nearly all (98%) respondents in this group could mention "floods" in a prompted situation, more than half (51%) could also name so in an unaided situation. This is the highest incidence of occurrence among this sub-set of respondents. The greatest gaps in aided and unaided responses occur among the residents who have lived in the Las Vegas Valley from 3 years to under 10 years. Only thirty-seven percent of respondents in these groups were able to mention "flood" or "flash flood" in an unaided situation. Among the respondents who have lived here for less than a year, a very high percentage (92%) were able to mention flooding in an aided situation and 43 percent were able to do the same unaided.

Project Summary



Zip codes: All of the respondents who reside in outlying areas of Clark County, including Logandale, Mesquite, and Overton, were able to mention flooding in an aided situation, while only a third was able to do so without help. This sub-sample is very small and only represents 12 respondents. Residents in the Northwest sections of the Las Vegas Valley are the most likely to mention flooding in both the aided and unaided questions (perhaps due to the flooding that occurred this summer in the Northwest section of the Las Vegas Valley); half were able to mention flooding unaided while 97 percent were able to do the same aided.

PROJECT SUMMARY



Age: When looking at the data across the age groups, respondents who are 55 years of age and older are the most likely to mention "flood" or "flash flood" in an unaided circumstance. Fifty-five percent of respondents mentioned flooding unaided as compared to 47 percent of respondents who are between the ages of 39 and 55, and 36 percent of respondents who are between the ages of 18 and 38. Among the aided responses, nearly all of the residents 39 and older were able to mention flooding, while 93 percent of those between the ages of 18 and 38 could do the same.

Gender: When looking at the data by gender, there are no real differences between the responses of males and females. In both groups, 96 percent were able to mention "flood" or "flash flood" in a prompted question. Forty-two percent of males and 47 percent of females were able to do the same unaided.

OTHER WEATHER RELATED NATURAL DISASTERS MENTIONED

Respondents who answered that they are aware of weather related natural disasters in question 1 (N = 407) were asked unprompted, "What types of weather related natural disasters are you aware of that occur in the Las Vegas Valley?" In the following table, those weather related disasters other than "floods" or "flash floods" are listed.

Table 1: Other Types of Disasters Mentioned

Type of Disaster	Percent [1]
Dust/ Sand Storms / High Winds	10%
Earthquakes	9%
Lightning Strikes/ Thunder Storms	7%
Drought	3%
Fires	3%
Tornadoes	3%
Other	4%
Unable to Specify	38%

Other 1: Includes such responses as hail, micro bursts, and volcanic disturbances

As can be seen from the table above, a preponderance (38%) of respondents were not able to specify a particular weather related natural disaster, although they had previously reported that they were aware that such disasters occur. Ten percent of the respondents mention such things as dust storms, sand storms, and winds, followed by 9 percent mentioning earthquakes and 7 percent mentioning lightning strikes or thunder storms. A few respondents also mentioned drought (3%), fires (3%), and tornadoes (3%).

[1] All percents reported here are valid percents.

PROJECT SUMMARY

FLOOD RELATED ISSUES

In order to inform the District's Public Information Program, respondents who were aware of floods by either their prompted or unprompted responses were asked a series of questions to assess their general knowledge of flash flooding and flood related issues. Since 97 percent of the sample did mention "flood" or "flash flood," this series of questions was asked of 97 percent of the sample (N = 475) or all but 17 respondents. Respondents were asked to "agree," "somewhat agree," "disagree," or "somewhat disagree" with six statements relating to various flood issues.[2] The following table provides the responses for the six items.[3]

Table 2: Flood Issues

Issue	% Agree	% Disagree
I know about the dangers of flash flooding (q3a)	98	2
I know about the time of year flash flooding is most likely to occur in the Las Vegas Valley (q3b)	84	16
I know about safety precautions relating to flash flooding (q3c)	90	10
I know about the resources available to learn more about flash flooding (q3d)	57	43
I know about ways in which flooding is being controlled in the Las Vegas Valley (q3e)	77	23
I know about the availability of flood insurance (q3f)	73	27

[2] "Agree" and "somewhat agree" responses have been combined to form an agreement scale, and "disagree' and "somewhat disagree" responses have been combined to form a disagreement scale.

[3] All percents are valid percents.

(Q3A).
I KNOW ABOUT THE DANGERS OF FLASH FLOODING

Ninety-eight percent of respondents agree that they know about the dangers of flash flooding. There is little variation in the data by age. Ninety-nine percent of 18 to 38 year old respondents, 98 percent of 39 to 55 year old respondents, and 98 percent of respondents age 56 and older all reported that they know about the dangers of flash flooding.

When looking at the responses from the different quadrants of the Valley, all (100%) of respondents in the Northwest reported knowing about the dangers of flash flooding. This was not much different from the other areas of the Valley, where 99 percent of residents in the Southeast and 98 percent of residents in both the Northwest and Southwest reported the same. Respondents in the outlying areas reported the lowest incidence of awareness (92%) of the dangers of flash flooding.

Almost all respondents (98% -100%) who have lived in the Las Vegas Valley for at least a year reported being aware of the dangers of flash flooding. All respondents (100%) who have lived in the Las Vegas Valley longer than 10 years are aware of the dangers of flash flooding. Awareness drops to 95 percent for respondents who have lived in the Valley between 6 months and a year and drops even lower to 89 percent for respondents who have lived in the Las Vegas Valley for less than 6 months (N = 27).

All (100%) of the males in the sample reported being aware of the dangers of flash flooding, while 97 percent of females reported the same.

(Q3B).
I KNOW ABOUT THE TIME OF YEAR FLASH FLOODING IS MOST LIKELY TO OCCUR IN THE LAS VEGAS VALLEY.

Eighty-four percent of respondents reported that they are aware of the time of year that flash flooding is most likely to occur in the Las Vegas Valley. There was not much variation in the data when looking at the results by the age of the respondents. Eighteen to 38 year old respondents (82%) were slightly less likely to agree with the statement than respondents who are between the ages of 39 and 55 (86%) and respondents who are older than 56 years of age (85%).

Residents who live in the Southwest part of the Valley are the least likely to know the time of year the flooding is most likely to occur (79%). Residents in the Southeast quadrant of the Valley are the most likely to know the time of year that flash flooding is most likely to occur. In other parts of the Valley, 82 percent of respondents in the Northeast and 85 percent of respondents in the Northwest are aware of the time flooding is most likely to occur. In the other areas of the Las Vegas Valley, 83 percent of respondents reported the same.

The longer the respondent has lived in the Las Vegas Valley, the more likely he/she is to be aware of the time of year that flash flooding is most likely to occur. Only 59 percent of respondents who have lived in the Valley for less than 6 months are aware of the time of year to expect floods, while 91 percent of respondents who have lived in the Valley for longer than 10 years know the time of year flash flooding is most likely to occur. There is a steady progression of awareness that occurs the longer a respondent lives in the Las Vegas Valley. There is one exception between respondents who have lived in the Valley between 6 months and a year (75%) and the drop to 68 percent for those who have lived in the area between one and three years. The percentages are as follows: ninety-one percent awareness of the time of year floods occur for residents who have lived here longer than 10 years, 86 percent for respondents who have lived here between 6 and 10 years, 81 percent for respondents who have lived here between 3 and 6 years, 68 percent for respondents who have lived here 1 year to 3 years, 75 percent for respondents who have lived here between 6 months and a year, and 59 percent for respondents who have lived here less than 6 months.

When looking at the data by gender, males (89%) are more likely than females (83%) to know the time of year that flash flooding is most likely to occur.

When looking at the data by education level, 21.1 percent of the respondents with less than a high school diploma did not know the time of year flooding is most likely to occur in the Las Vegas Valley.

(Q3C).

I KNOW ABOUT THE SAFETY PRECAUTIONS RELATING TO FLASH FLOODING.

Ninety percent of respondents agreed with the statement, "I know about the safety precautions relating to flash flooding." There was not much variation among the responses based on the age of the respondents. Ninety-one percent of respondents between the ages of 18 and 38 reported knowing about safety precautions relating to flash flooding, while 89 percent of respondents in all other age categories reported the same.

All (100%) respondents from the outlying areas of Clark County reported that they know about safety precautions relating to flash flooding, this is followed by 92 percent of respondents in the Southeast, 91 percent of respondents in the Northeast, and 90 percent of respondents in the Northwest that reported the same. Respondents in the Southwest quadrant of the Valley (86%) were the least likely to agree with the statement.

There is a statistically significant relationship between the variables *"I know about the safety precautions relating to flash flooding"* and the *"length of time resided in the Las Vegas Valley."* Only 67 percent of respondents who have lived here less than 6 months reported that they know about safety precautions. This percentage jumps to between 84 percent and 85 percent for respondents who have lived in the Valley for longer than 6 months to less than 6 years. Ninety-three percent of respondents who have lived here between 6 and 10 years know about safety precautions relating to flash flooding, while 96 percent of respondents who have lived in the area in excess of 10 years have reported the same.

Ninety percent of both males and females agree that they know about safety precautions relating to flash flooding.

When looking at the data by education level, one-fourth of the respondents with less than a high school diploma did not know the time of year flooding is most likely to occur in the Las Vegas valley.

(Q3D).
I KNOW ABOUT THE RESOURCES AVAILABLE TO LEARN MORE ABOUT FLASH FLOODING

In this series of questions, this statement had the lowest incidence of agreement. Only 57 percent of respondents agreed that they know about the resources available to learn more about flash flooding. Respondents who are between the ages of 39 and 55 had the highest incidence of agreement with this statement (64%) while respondents older than 56 years of age had the lowest incidence of agreement (53%). Fifty-six percent of respondents between the ages of 18 and 38 reported knowing about the resources available to learn more about flash flooding.

Respondents in the Southeast (59%) and the Southwest (58%) are the most likely to know about the resources available to learn more about flash flooding. This is followed by 57 percent of respondents who live in the Northwest, who reported the same. Those respondents living in the Valley's Northeast quadrant (51%) and those in the outlying areas (50%) are the least likely to know about the resources available to them about flash flooding.

The data show that the long time residents (10 years +) are the most likely to know what resources are available to them (56%). Only 37 percent of residents who have lived in the Valley less than 6 months reported the same. About half of respondents who have resided in the area between 6 months and three years reported knowing about the resources available, while 56 percent of those who have been here between 3 and 10 years reported the same.

When looking at the data by gender, 60 percent of males and 55 percent of females reported knowing about the resources available to learn more about flash flooding.

(Q3E.)
I KNOW ABOUT THE WAYS FLOODING IS BEING CONTROLLED IN THE LAS VEGAS VALLEY

Slightly more than three quarters (77%) of respondents reported that they know about the ways in which flooding is being controlled in the Las Vegas Valley. There is some variation between the responses of respondents who are under the age of 39 and the rest of the sample. Sixty-seven percent of respondents between the ages of 18 and 38 reported knowing about the ways that floods are controlled. The percentage jumps to 83 percent of 39 to 55 year old respondents and 82 percent of respondents over age 55 who reported the same.

There is a statistically significant relationship between the variables *"I know about the ways in which flooding is being controlled in the Las Vegas Valley"* and the *"area of the Valley where the respondent resides."* Respondents in the Northwest are the most likely to know how flooding is being controlled (83%). Respondents in the Northeast are the least likely to know about flood control (66%). In other areas of the Valley, 79 percent of respondents in the Southeast, 73 percent of respondents in the Southwest, and 67 percent of respondents in outlying areas reported knowing about the ways floods are controlled.

There is also statistical significance between the variables *"I know about the ways in which flooding is being controlled in the Las Vegas Valley"* and *"length of time resided in the Valley."* Only 41 percent of respondents who have resided in the Valley less than 6 months know about the ways that floods are controlled as opposed to 84 percent or those who have lived here longer than 10 years who reported the same. In all other groups, between 68 percent and 75 percent of respondents are aware of flood control.

Seventy-eight percent of males and 76 percent of females reported knowing about the ways in which flooding is being controlled in the Las Vegas Valley.

(Q3F).

I KNOW ABOUT THE AVAILABILITY OF FLOOD INSURANCE.

Seventy-three percent of respondents reported that they know about the availability of flood insurance. In this instance, the older respondents (56+) are the most likely (79%) to know about the availability of flood insurance, while the youngest respondents (18-38) are the least likely (66%) to know about the availability of flood insurance. Seventy-six percent of respondents between the ages of 39 and 55 reported the same.

There was not much variance between the responses of those in the Southeast (78%), Southwest (77%), and the Northwest (74%) in the respondent's knowledge about the availability of flood insurance. Respondents in the Northeast part of the Valley (60%) were the least likely to know about the availability of flood insurance. In the outlying areas, 67 percent of respondents know about the availability of flood insurance.

As with some of the other issues in this section, those who have resided here the longest were most likely to agree with the statement. Eighty percent of respondents who have lived here longer than 10 years know about the availability of flood insurance, while only about 65 percent of the residents who have lived here between 6 months and a year agree with the same. In the other sub-sets, 68 percent of those living here 1 to 3 years, 64 percent of those living here 3 to 6 years, and 69 percent of those living here 6 to 10 years are aware of the availability of flood insurance.

Seventy percent of male respondents and 75 percent of female respondents know about the availability of flood insurance.

SOURCES OF INFORMATION

In the next section of the survey, respondents were asked to answer "yes" or "no" to a list that was read to them of possible sources for obtaining information about floods. The following table presents the responses in rank order.

Table 3: Rank order of sources for obtaining flood information

Rank	Source	% 2003	% 2002	% change
1	Television	88%	91%	-3%
2	Radio	59%	39%	+20%
3	Newspapers	58%	54%	+4%
4	Billboards	48%	49%	-1%
5	Other Friends and Relatives	47%	48%	-1%
6	Brochures	25%	16%	+9%
7	Bus Stop Shelter Ads	22%	14%	+8%
8	Your School Age Children	20%	11%	+9%
9	Magazines	18%	7%	+11%
10	Government Website	13%	Not asked	

As can be seen in the table, radio, brochures, magazines, and school age children increased as an information source to Valley residents when compared to data collected in 2002. In 2003, the District increased its public information efforts in these areas which may account for the positive change in these categories.

Television was the most cited source. Eighty-eight percent of respondents reported this as a source of obtaining information about floods. This finding is similar to the finding obtained last year when the list was read to respondents, although there is a 3% decrease between 2002 and 2003 in the number of respondents who selected television as a source for obtaining flood information. Several of the items remained fairly constant when compared to the responses from 2002. Newspapers remain a source where more than half of respondents are obtaining information about floods. There has not been much change in billboards or information obtained from friends or relatives as a source of flood information between last year and this year. Again, nearly half of all respondents reported learning about floods from these sources.

There was a significant increase between the number of respondents who are receiving flood information on the radio. In 2002, only 39 percent of respondents reported obtaining

information from the radio, while this year's survey 59 percent of the sample reported obtaining flood information from the radio, an increase of 20 percentage points. There was also an increase in several other media sources. Magazines, as a source for obtaining flood information, rose 11 percentage points, brochures and school age children rose 9 percentage points, and bus stop shelter ads rose 8 percentage points from last year as a source for obtaining flood information.

SOURCES OF FLOOD INFORMATION BY SUB POPULATION

Table 4: Sources of flood information by age

Source	18-38	39-55	56 +
TV	92%	89%	85%
Radio	69%	60%	49%
Newspaper	46%	62%	69%
Billboards	60%	50%	35%
Friends	56%	48%	40%
Brochure	21%	25%	30%
Bus Stop Ads	28%	25%	13%
School Kids	37%	36%	8%
Magazine	23%	14%	17%
Web	18%	11%	8%

When looking at the answers provided by respondents based on age, the following observations can be made. In all age groups, television is the main source for obtaining information about flooding. Radio as a source ranks second among 18 to 38 year olds (69%) and 29 to 55 year old respondents (60%). Newspapers rank as the second source of information (69%) among respondents who are age 56 and older. Half of the respondents who are between 39 – 55 and 60 percent of respondents between 18 – 38 reported receiving flood information from billboards, while only 35 percent of those 56 and older reported the same. Eighteen to 38 year olds (56%) are more likely to receive information about flooding from friends and relatives while respondents 56 and older are the least likely (40%) to receive information about floods from friends and relatives. Brochures rank sixth as a source of flood information and only between 21 percent (18 - 35 year olds) and 30 percent (56+) of respondents reported getting information from a brochure. Eighteen to 38 year olds (28%) and 39 to 55 year olds (25%) are twice as likely to get flood information from bus stop shelter ads than respondents older than 56 (13%). The government website ranks last as a source for obtaining flood information, and older respondents are less likely to use it than younger respondents.

SOURCES OF FLOOD INFORMATION BY AREA

Table 5: Sources of flood information by area

Source	SE	NE	NW	SW	Other Area
TV	91%	80%	92%	84%	83%
Radio	63%	55%	56%	59%	58%
Newspaper	58%	55%	59%	64%	67%
Billboards	51%	45%	48%	41%	68%
Friends	46%	57%	47%	46%	42%
Brochure	27%	28%	23%	24%	33%
Bus Stop Ads	20%	23%	27%	16%	17%
School Kids	18%	31%	21%	15%	8%
Magazine	17%	22%	19%	15%	17%
Web	15%	15%	7%	15%	8%

When looking at the sources of information based on the area of the Valley where respondents reside, there is little variation on these data. A couple of items, however, are worthy of mention. While television is the main source of flood information in all areas of the Valley, respondents in the Southeast are the most likely to rank the radio (63%) as the second source for obtaining flood information, while respondents in the Northwest (59%) and the Southwest 64%) ranked newspapers as the second source for obtaining flood information. Respondents who live in the Northeast part of the Valley ranked friends and relatives (57%) as the second source of flood information, while those in the outlying areas ranked billboards second (68%). Those least likely to mention billboards as a source of flood information live in the Southwest part of the Valley (51%). Those respondents most likely to mention bus stop shelter ads live in the Northwest part of the Valley (27%). The highest incidence of respondents reporting that they receive information from their school age children is from those living in the Northeast (31%).

PROJECT SUMMARY

There is little variation in the answers of respondents based on how long they have resided in the Valley. Regardless of how long the respondent has lived here, television and the radio are the main sources mentioned for obtaining information on floods. One interesting item is the percentage of new residents (26%) who reported obtaining information from a government website. This is by far the highest incidence, and probably indicates a general trend that people moving into a new area use the internet to obtain information. It appears from the data, that once six months of residency is reached, the web no longer stands out as a source to obtain information about flooding. At least half of all respondents who have lived in the Valley at least 3 years to over 10 years reported that they receive information about flooding from billboards. This compares to only 26 percent of those here less than 6 months and 27 percent of those who have been here between 1 and 3 years. Sandwiched between these figures is 45 percent of respondents who have resided in the Las Vegas Valley for between 6 months and a year who received flood information from billboards.

Table 6: Sources of information by length of time lived in the Valley

Source	< 6 mos.	6 mos. - 1 yr.	1 yr .- 3 yr.	3 yrs. - 6 yrs.	6yrs. - 10 yrs.	10 + yrs.
TV	78%	85%	86%	89%	91%	89%
Radio	56%	65%	52%	56%	65%	59%
Newspaper	52%	40%	50%	50%	57%	66%
Billboards	26%	45%	27%	50%	61%	50%
Friends	48%	45%	41%	38%	60%	47%
Brochure	22%	5%	16%	18%	31%	29%
Bus Stop Ads	11%	5%	11%	30%	29%	22%
School Kids	19%	5%	11%	21%	27%	20%
Magazine	19%	10%	12%	19%	30%	14%
Web	26%	10%	9%	14%	14%	11%

As can be seen from the table below, gender does not appear to be a factor with respect to sources of information about flooding. The biggest variation in responses is the 7 percentage points of difference between male respondents (84%) and female respondents (91%) who obtain information about flooding from television.

Table 7: Sources of information by gender

Source	Male	Female
TV	84%	91%
Radio	56%	62%
Newspaper	57%	60%
Billboards	51%	46%
Friends	46%	49%
Brochure	27%	23%
Bus Stop Ads	23%	21%
School Kids	18%	21%
Magazine	19%	17%
Web	14%	11%

(Q4)
CABLE TELEVISION[4]

In order to assess the number of respondents who have viewed *The Flood Channel,* which is shown on cable channels 2 or 4, respondents were asked first if they had cable television. Seventy-six percent of respondents reported that they have cable television. Those who reported having cable television were then asked if they had ever watched *The Flood Channel* on cable channels 2 or 4. Of those respondents who have cable television, 48 percent reported that they have watched *The Flood Channel.* This represents 181 respondents. The respondents who had watched *The Flood Channel* were then asked (unprompted) what they remember the most from watching it.

Table 8: Rank order – remembered most from watching Flood Channel

Rank	Item	%	Number
1	Dangers of flash flooding	42%	76
2	Safety Precautions	13%	23
3	Ways floods are controlled	12%	22
4	Other	7%	12
5	Projects/ Info on the Flood District	4%	7
6	Don't drive through it	3%	6
6	Time of year flash flooding occurs	3%	6
6	Where to learn more about flooding	3%	6

Other: includes such responses as: rescues, community service, and boring

As can be seen from the table above, by far the item that respondents remember the most from watching *The Flood Channel* is the "dangers of flash flooding" (42%). The second highest response given was "safety precautions," which 13 percent of respondents mentioned, followed by 12 percent of respondents who mentioned "ways floods are controlled."

[4] The seventeen respondents who were not able to mention floods or flash floods under either prompted or unprompted circumstances were not asked the series of questions on cable television.

Project Summary

Demographic Profile of *The Flood Channel* Viewers:

The longer one has resided in the Las Vegas Valley, the more likely he/she is to have ever watched *The Flood Channel*. Nearly half (49%) of respondents who have lived in the Las Vegas Valley longer than 10 years have reported watching *The Flood Channel*. The percentage drops to 19 percent for those who have lived here between 6 and 10 years and to 18 percent for those who have lived here between 3 and 6 years. Viewership by respondents who have lived in the Las Vegas area less than 3 years is extremely sparse. Only 5 percent (N = 9) of respondents who have lived here between 6 months and 3 years reported having watched *The Flood Channel*, while only 3 percent (N = 5) of respondents who have lived here less than 6 months reported the same.

Twelve percent of those who watch *The Flood Channel* live in a flood zone. More respondents in the 39 – 55 age group (38%) watch *The Flood Channel* than those 18-38 (33%) or those aged 56 or older (28%). Thirty-two percent of *The Flood Channel* viewers have achieved a high school degree as their highest level of education. Fifty-two percent of female respondents and 46 percent of male respondents have watched the channel.

(Q5 – Q7)
EXPERIENCE WITH FLOODED ROADS

All respondents were asked if they had ever encountered a flooded street or road as either a driver or passenger of a vehicle while on a road in the Las Vegas Valley. In order to assure that all respondents were answering from the same point of reference, a definition of a flooded street was read to them.[5] Sixty-six percent (N = 325) of respondents reported that they had encounter a flooded road in the Las Vegas Valley. This figure mirrors last year's figure of 65 percent of respondents who reported having ever "encountered a flooded street while driving."

The respondents who had encountered a flooded street or road were asked to respond to four statements and choose the one that best described how the encounter was handled. Interviewers read the following four statements: (1) "I turned back and took an alternative route." (2) "I waited for the water to go down and then drove through it." (3) "I drove through it and made it." and, (4) "I drove through it and got stuck." Responses 1 and 2 are considered a positive reaction to the encounter, and responses 3 and 4 are considered negative. The follow-up question that each respondent received was based on whether he/she answered this question in a positive or negative manner.

Note that six percent of respondents reported that they "don't remember" what they did or gave some other reason.

[5] A flooded street or road was defined as: "one where water covers the street from curb to curb and you can't see the pavement."

Positive Responses:

Sixty-two percent responded positively to the flooded road, and among this group, 57 percent (N = 186) "turned back and took an alternative route," and 5 percent (N = 15) "waited for the water to go down and then drove through it."

During the follow-up question, interviewers were instructed not to read categories, but rather to categorize responses into categories. Among the 62 percent of respondents who reacted positively to the flooded road by turning around or waiting until the water went down, the reason most often given for doing so was "the safe thing to do." Forty-six percent of respondents from this group answered in this way. The next most mentioned responses were "the water was too high" answered by 15% and "had learned about the dangers of doing so" (15%). All other mentions received between 5 and 7 percent and they include "was scared" (7%), "it was the right thing to do" (7%), "saw others having trouble" (6%), and "other"[6] (5%).

Those most likely to "turn around and take an alternate route" have lived here longer than 10 years, (59%) in the Southeast part of the Valley (35%). They did so because it "was the safe thing to do (45%), are between the ages of 39 and 55 (37%), and are female (55%). There is not much variance in the education levels of respondents who turned around and took another route.

Negative Responses:

Among the 32 percent (N = 105) of respondents who responded negatively 29 percent (N = 96) "drove through and made it," and 3 percent (N = 9) "drove through and got stuck."

Those respondents who indicated that upon encountering a flooded road or street that they drove through it further indicated that the main reason that they did so was because they did not think it was unsafe to do so (45%). Other reasons given were: "did it before and made it" (14%), "was in a hurry" (10%), "was caught in traffic and had no choice" (8%), "have a large truck or SUV" (8%), "didn't look that deep" (6%), and "saw others do it and make it" (5%).

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[6] Other responses include such items as "I'm not stupid," "was the best choice at the time," "didn't know how deep the water was," "wasn't sure of the territory," and "I like living."

Those who "drove through and made it" live in the Southeast part of the Valley (37%) for longer than 10 years (55%) and they did so because they "didn't think it was unsafe not to" (44%). They are between the ages of 18 and 38 (45%), are male (51%), and have achieved graduation from high school as the highest level of education (32%).

Those who "drove through and got stuck" live in the Southeast (33%) or the Northwest (33%). Again, they are the long time residents who have lived here longer than 10 years (44%). They did so because they "didn't think it was unsafe" (33%) and "didn't know any better" (33%). They are between the ages of 39 and 55 (44%), are female (68%), and have achieved graduation from high school as the highest level of education.

(Q8)
ARE STREETS A PART OF THE FLOOD CONTROL SYSTEM?

All respondents were asked which of the following statements is true: "streets are a part of the flood control system" and "streets are not a part of the flood control system." Fifty-nine percent of respondents responded that "streets are a part of the flood control system." Respondents in the Southeast (33%) and the Northwest (29%) are the most likely to know this. Sixteen percent of respondents in the Northeast and the Southwest knew that streets are a part of the flood control network. There is significant variation in the answers from respondents who have lived here the longest and those who have lived here for a very short period of time. While 48 percent of respondents who have lived in the Valley 10 years or longer are aware of this, only 4 percent of those who have lived here between 6 months and a year know this. Females (55%) are more likely to be aware that streets are a part of the flood control network, than are males (44%).

(Q9)
AVAILABILITY OF FLOOD INSURANCE

All respondents were asked to respond to the following: "flood insurance is available to all residents of the Las Vegas Valley" and "flood insurance is not available to all residents of the Las Vegas Valley." Forty-three percent of respondents answered the question correctly by reporting that "flood insurance is available to all residents of the Las Vegas Valley." A larger percentage (57%) answered the question incorrectly or did not know.

Respondents in the Southeast (32%) and the Northwest (28%) are most likely to know that flood insurance is available to all residents of the Las Vegas Valley. Only 14 percent of respondents in the Northeast and 19 percent of respondents in the Southwest reported that flood insurance is available to all residents of the Las Vegas Valley. Again, those living here 10 years or longer had the highest incidence of reporting that flood insurance is available to all residents of the Las Vegas Valley (46%), and those living here between 6 months and a year had the lowest (4%). Age and gender were fairly evenly distributed for this question.

(Q10)
DO YOU LIVE IN A FLOOD ZONE?

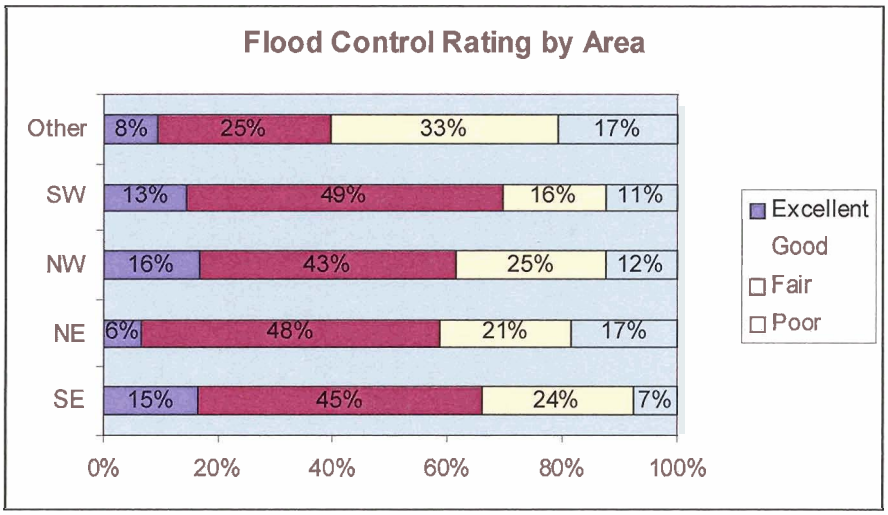
Only 12 percent of respondents (59 people) reported that they live in a flood zone. Of these 59 respondents, 42 percent live in the Southeast, 27 percent live in the Northwest, 15 percent live in the Southwest, 10 percent live in the Northeast, and 2 percent live in some other area of Clark County.

(Q11)
DO YOU HAVE FLOOD INSURANCE?

Only 11 percent of respondents (56 people) reported that they have flood insurance. When performing a cross tabulation of these two variables (flood zone and insurance) and considering that flood insurance is a mandatory requirement for those living in designated flood zones, there appears to be uncertainty and confusion surrounding these two questions (Q10 and Q 11). For example, of the 59 respondents who said they live in a flood zone, only 16 of them reported to have flood insurance.

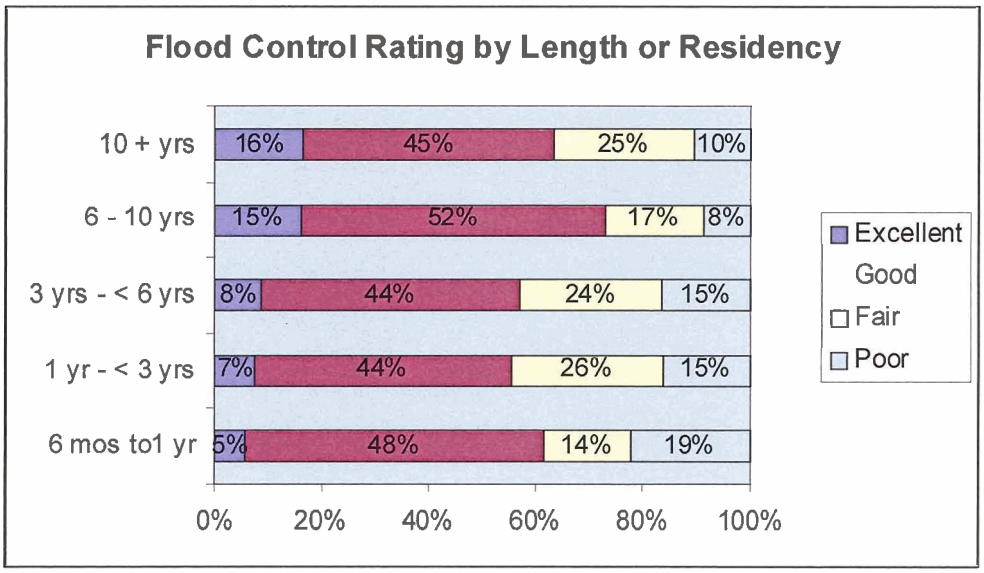
(Q12).
OVERALL HOW WOULD YOU RATE THE WAY FLOOD CONTROL IS HANDLED IN THE LAS VEGAS VALLEY?

Flood control got a "good" rating from a large percentage of respondents (45%), while 23 percent rated flood control as "fair." Thirteen percent rated flood control in the Valley as "excellent," while 11 percent rated it as "poor." Eight percent of respondents did not know how to rate the way flood control is being handled in the Valley. (Note: When comparing the 8 percent "don't know" to the data collected in question 3e where 25 percent of the sample did not know about the ways in which flooding is being controlled in the Las Vegas Valley, one would expect the percentage of "don't know" in question 12 to be closer to 25 percent, rather than the reported 8 percent.)

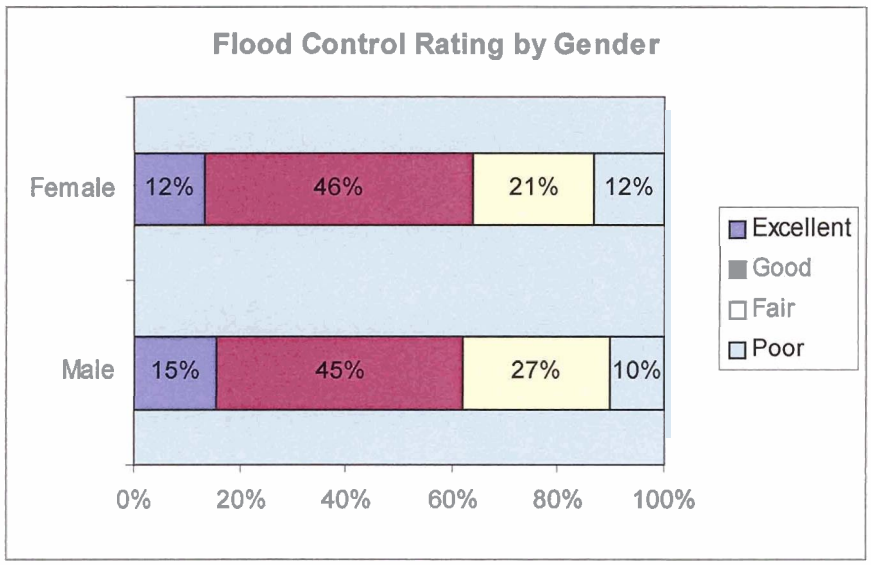


When looking at the flood control rating by area of town,[7] the distribution is fairly even and does not appear to be a factor in how respondents rated flood control. Residents in the Northeast (6%) were the least likely to rate the way flood is being controlled as excellent, and residents in the Northwest (16%) and Southeast (25%) were the most likely to rate flood control excellent. In all quadrants of the valley except the outlying areas, between 43 and 49 percent of respondents rated flood control as "good." In the outlying areas, only 25 percent think flood control is "good" and they are most likely to rate it as "fair" (33%). In the Northwest, Northeast, and Southeast quadrants of the Valley, about a quarter of respondents rated flood control "fair" while in the Southwest 16 percent rated flood control as "fair." Residents in the Southeast were the least likely to rate flood control "poor" (7%), while those in other areas of Clark County and those in the Northeast portion of the Valley were the most likely to rate flood control as "poor" (17%).

[7] Bars do not add up to 100%. "Don't know" responses are not displayed. The same is true for the two graphs on the following pages.



When looking at the answers by the length of time the respondent has lived in the Las Vegas Valley, those who have lived here from six years (15%) to over 10 years (16%) are twice as likely as other respondents to rate flood control as "excellent." Those who have lived here between 6 months and a year are the most likely to rate flood control as "poor" (19%).



When looking at the responses by gender, there is not much variance in the responses. By 3 percentage points males are more likely than females to rate flood control as "excellent." The biggest discrepancy in responses is in the "fair" category, where 21 percent of females and 27 percent of males rated flood control as "fair."

Conclusions and Recommendations

As observed since 1999, there is a high level of awareness (when combining unaided and aided scores) among English-speaking Clark County residents regarding the dangers of flash flooding in our Valley. To understand more fully this finding, the 2003 survey delves further than previous surveys in ascertaining respondents' general knowledge of flooding. As discussed in the Project Summary section of this report, 16% of those surveyed did not know when the flash flood season begins or ends, 10% were unfamiliar with safety precautions relating to flash flooding, 43% were unfamiliar with the District's available educational resources, 23% were unfamiliar with the ways in which the District controls flooding, and 27% knew little about the availability of flood insurance. Because this is the first year data have been collected on these variables, it would be difficult to speculate if these percentages represent an increase or decrease in awareness or general knowledge levels. However, these data points can be collected in upcoming years and be used to inform the Distinct's public information program by providing data previously unavailable. We recommend that emphasis during 2004 be given to educating residents on the time of year of flash flood season as well as insurance availability. Additionally, consider working closely with the Nevada Insurance Council to educate citizens about flood insurance.

We are particularly concerned with the overall lack of flood awareness and flood knowledge displayed by newcomers to the Valley (those residents who have lived here less than one year which represents 10 percent of the sample.) For example, there is a statistically significant relationship between the variables *"I know about the safety precautions relating to flash flooding"* and the *"length of time resided in the Las Vegas Valley."* Only 67 percent of respondents who have lived here less than 6 months reported that they know about safety precautions. This percentage jumps to between 84 percent and 85 percent for respondents who have lived in the Valley for longer than 6 months to less than 6 years. Ninety-three percent of respondents who have lived here between 6 and 10 years know about safety precautions relating to flash flooding, while 96 percent of respondents who have lived in the area in excess of 10 years have reported the same. There is also statistical significance between the variables *"I know about the ways in which flooding is being controlled in the Las Vegas Valley"* and *"length of time resided in the Valley."* Only 41 percent of respondents who have resided in the Valley less than 6 months know about the ways that floods are controlled as opposed to 84 percent of those who have lived here longer than 10 years who reported the same. In all other groups, between 68 percent and 75 percent of respondents are aware of flood control. These findings indicate that the District needs to place more emphasis on reaching this newcomer sub-set. While the District launched a successful direct mail campaign in 2003 (in conjunction with various relators, lenders, and insurance agents),

we suggest that the District continue to rely on direct mail as an active educational intervention in reaching the newcomer audience. Also, the District may want to consider reaching newcomers through means such as utilities hookup or first month's billing, through banking institutions, or other similar services in which newcomers will likely access.

A surprising finding of the survey is that nearly half of those interviewed had watched *The Flood Channel* on cable channels 2 or 4. We suggest the continuation of the program with program emphasis being placed on information and education regarding flash flood season, insurance availability, what to do when encountering a flooded street, elements of the flood control system, and sources of information about flood control. When considering changes to programing or target audience, the District should consider both the *The Flood Channel* viewing demographics gathered in this study and U.S. Census Bureau demographics gathered from Clark County residents in 2000. (See Tab 8.)

One-third of those interviewed rated the way flood control is being handled in the Las Vegas Valley as fair or poor. This question relates to the mission and vision of the Regional Flood Control District. One needs only to review media attention to realize how important trust and fiscal accountability of a government agency are to the public. In a time in which media takes a lively interest in activities of public servants and their organizations, in which Clark County residents are highly transient, in which community citizens are extremely vocal and largely mistrusting of public agencies, there is an urgent need for all public agencies to project a consistent and vision-based message to the public. We suggest that the District can enhance its public information impact by not only continuing to educate the citizens and visitors of Clark County, but by also living its vision of being a premiere regional agency safeguarding a community from the devastation of floods.

Communication is an important aspect of everyday life, but when it is used in a specific manner directed toward educating the public on specific issues, such as the dangers of flash flooding, it becomes a way of building community capital. We suggest that the District continue to enhance its Public Information Program by using a combination of active educational interventions, such as direct mail pieces, and passive educational interventions, such as public service announcements through television and radio mediums.

Conclusions and Recommendations

A major limitation of the study is reflected in the fact that we surveyed only English-speaking Clark County residents. According to Census 2000 data, nearly 22% of the population of Clark County considers themselves of Hispanic descent. Of those, nearly 80 percent are immigrants to the United States. According to recent research conducted in Clark County by Dr. Mary Riddel and Dr. Keith Schwer (N=598; "The Impact of the Nonnative Hispanic Community on the Economy of Clark County"), 21 percent cannot understand, speak, or read English, 48 percent have some limited understanding of English, 13 percent can speak and understand English, but cannot read English, and 16 percent can speak, understand, and read English. In only .6 percent of the cases is English considered to be their first language. To get a more robust and accurate picture of flood awareness and knowledge within Clark County, we suggest that the 2004 Flood Awareness Survey be bilingual or specific survey research be conducted within the Spanish-speaking subpopulation of Clark County.

In conclusion, data collected in this year's 2003 Flood Awareness Survey indicates that the District's Public Information Program is successful on many levels. However, due to the transient and changing nature of our Valley's demographic, the unpredictable nature of our area's weather patterns, the uncompleted flood control infrastructure work, and the mission and vision of the Regional Flood Control District, we recommend that in forthcoming years, you continue to support, enhance, and evaluate the Regional Flood Control District's Public Information Program.

Clark County Regional Flood Control District
Awareness of Flash Flooding Among Clark County Residents 2003

Introduction

Hello, my name is [YOUR NAME] with the UNLV Cannon Center for Survey Research. We are conducting a research study on behalf of a Clark County government agency. We are neither selling anything, nor are we asking for any donations. We are conducting research with residents of the Las Vegas Valley and we would like to talk to you. All of your responses will remain confidential, and your responses are valuable to our research.

May I please speak with a Clark County resident in your household who is at least 18 years of age or older and has celebrated the most recent birthday in your household?

[IF RESPONDENT ASKS, THE SURVEY WILL TAKE APPROXIMATELY FIVE MINUTES DEPENDING ON HIS OR HER RESPONSES.]

[IF RESPONDENT ASKS, THE NAME OF THE AGENCY WILL BE REVEALED AT THE END OF THE SURVEY.]

Begin Survey

QA. So that we can be sure we have opinions from all areas of the Las Vegas Valley, can you please tell me the zip code of your residence?

_____ [INTERVIEWER: TYPE IN "99" IF RESPONDENT REFUSED. DATA ENTRY IS REQUIRED TO MOVE ON.]

Recoded zipcode responses:

35.8% Southeast
15.5% Northeast
28.2% Northwest
17.9% Southwest
2.6% Other Clark County

QB. How many years have you lived in Clark County?

6.1% ❒ 1 = Less than 6 months
4.3% ❒ 2 = 6 months to less than 1 year
9.3% ❒ 3 = 1 year to less than 3 years
14.8% ❒ 4 = 3 years to less than 6 years
17.5% ❒ 5 = 6 to 10 years
47.2% ❒ 6 = Longer than 10 years
.8% ❒ 9 = Refuse

Q1. Are you aware of any weather related natural disasters that can occur in the Las Vegas Valley?

82.7% ❒ 1 = Yes [GO TO Q1a.]
16.5% ❒ 2 = No [GO TO Q2.]
.8% ❒ 7 = Don't Know [GO TO Q2.]
❒ 8 = Refuse [GO TO Q2.]

Q1a. What types of weather related natural disasters are you aware of that occur in the Las Vegas Valley?

[IF RESPONDENT SAID "FLASH FLOODS" OR FLOODING" GO TO Q. 3. IF RESPONDENT DID NOT SAY "FLASH FLOODS" OR FLOODING GO TO Q2.]

Q2. Are you aware that flash flooding can occur here in the Las Vegas Valley?

93.7% ❒ 1 = Yes
4.1% ❒ 2 = No
2.2% ❒ 7 = Don't Know
❒ 8 = Refuse

Q3. *Now, I'm going to read some statements relating to flash flooding. For each statement, please tell me if you "Agree," "Somewhat agree," "Somewhat disagree," or "Disagree" with the statement. Remember, there are no right or wrong answers.*

Q3a. I know about the dangers of flash flooding.

91.3% ❒ 1 = Agree
3.5% ❒ 2 = Somewhat agree
.2% ❒ 3 = Somewhat disagree
1.0% ❒ 4 = Disagree
.6% ❒ 8 = Don't Know
3.5% ❒ 9 = Refuse

Q3b. I know about the time of year flash flooding is most likely to occur in the Las Vegas Valley.

69.1% ❒ 1 = Agree
12.0% ❒ 2 = Somewhat agree
2.6% ❒ 3 = Somewhat disagree
8.7% ❒ 4 = Disagree
4.1% ❒ 8 = Don't Know
3.5% ❒ 9 = Refuse

Q3c. I know about safety precautions relating to flash flooding.

78.0% ❒ 1 = Agree
8.9% ❒ 2 = Somewhat agree
2.2% ❒ 3 = Somewhat disagree
4.7% ❒ 4 = Disagree
2.6% ❒ 8 = Don't Know
3.5% ❒ 9 = Refuse

Q3d. I know about the resources available to learn more about flash flooding.

38.2% ❒ 1 = Agree
16.9% ❒ 2 = Somewhat agree
7.9% ❒ 3 = Somewhat disagree
28.5% ❒ 4 = Disagree
5.1% ❒ 8 = Don't Know
3.5% ❒ 9= Refuse

Q3e. I know about ways in which flooding is being controlled in the Las Vegas Valley.

52.6% ❒ 1 = Agree
21.7% ❒ 2 = Somewhat agree
3.7% ❒ 3 = Somewhat disagree
15.0% ❒ 4 = Disagree
3.5% ❒ 8 = Don't Know
3.5% ❒ 9 = Refuse

Q3f. I know about the availability of flood insurance.

63.0% ❒ 1 = Agree
7.3% ❒ 2 = Somewhat agree
3.7% ❒ 3 = Somewhat disagree
17.3% ❒ 4 = Disagree
5.3% ❒ 8 = Don't Know
3.5% ❒ 9 = Refuse

Q4. *From the list I'm going to read, please tell me with either a "Yes" or "No" if you have learned about flash flooding from that source.*

4a. Brochure

24.8% ❒ 1 = Yes
73.1% ❒ 0 = No
.8% ❒ 8 = Don't Know
1.3% ❒ 9 = Refuse

4b. Bus stop shelter ad

21.7% ❒ 1 = Yes
78.5% ❒ 0 = No
1.1% ❒ 8 = Don't Know
1.5% ❒ 9 = Refuse

4c. Billboard

48.0% ❒ 1 = Yes
50.9% ❒ 0 = No
.6% ❒ 8 = Don't Know
.4% ❒ 9 = Refuse

4d. Television

88.4% ❒ 1 = Yes
10.9% ❒ 0 = No
.6% ❒ 8 = Don't Know
❒ 9 = Refuse

4e. Radio

58.9% ❒ 1 = Yes
39.5% ❒ 0 = No
.6% ❒ 8 = Don't Know
1.1% ❒ 9 = Refuse

4f. Newspaper

58.5% ❒ 1 = Yes
40.2% ❒ 0 = No
.88% ❒ 8 = Don't Know
.4% ❒ 9 = Refuse

4g. Magazine

17.7% ❒ 1 = Yes
80.8% ❒ 0 = No
.8% ❒ 8 = Don't Know
.6% ❒ 9 = Refuse

4h. Your school age children

19.6% ❒ 1 = Yes
78.9% ❒ 0 = No
1.1% ❒ 8 = Don't Know
.4% ❒ 9 = Refuse

4i. Other friends and/or relatives

47.6% ❒ 1 = Yes
51.6% ❒ 0 = No
.8% ❒ 8 = Don't Know
❒ 9 = Refuse

4j. Government Website

12.5% ❒ 1 = Yes
86.2% ❒ 0 = No
1.1% ❒ 8 = Don't Know
.2% ❒ 9 = Refuse

Q4k. Do you have cable television?

76.4% ❒ 1 = Yes [GO TO Q4Ka.]
20.1% ❒ 0 = No [GO TO Q5.]
❒ 8 = Don't Know [GO TO Q5.]
3.5% ❒ 9 = Refuse [GO TO Q5.]

Q4ka. Have you ever watched "The Flood Channel" on Cable Channels 2 or 4?

48.1% ❒ 1 = Yes [GO TO Q4Kb.]
50.0% ❒ 0 = No [GO TO Q5.]
1.9% ❒ 8 = Don't Know [GO TO Q5.]
❒ 9 = Refuse [GO TO Q5.]

Q4kb. What do you remember most from watching the program?

42.0% ❒ 1 = Dangers of flash flooding
3.3% ❒ 2 = Time of year flooding occurs in the LV Valley
12.7% ❒ 3 = Safety Precautions
3.3% ❒ 4 = Where to learn more about flash flooding
12.2% ❒ 5 = Ways flooding is controlled in the LV Valley
.6% ❒ 6 = Availability of flood insurance
16.6% ❒ 7 = Other [PROVIDE RESPONSE VERBATIM]
8.8% ❒ 8 = Don't Know
.6% ❒ 9 = Refuse

[INTERVIEWER: DO NOT READ RESPONSES. USE THESE CATEGORIES FOR CODING ONLY!]

For the next two questions, a flooded street or road is defined as one where water covers the street from curb to curb, and you can't see the pavement.

Q5. Have you ever encountered a flooded street or road as either a driver or a passenger of a vehicle while on a road in the Las Vegas Valley?

66.1% ❒ 1 = Yes [GO TO Q6.]
33.3% ❒ 0 = No [GO TO Q8.]
.6% ❒ 8 = Don't Know [GO TO Q8.]
❒ 9 = Refuse [GO TO Q8.]

Q6. Thinking back to the last time you came to a flooded street in the Las Vegas Valley, which of the following statements best describes what you or the driver did? [INTERVIEWER: READ 1-4 ONLY.]

57.2% ❒ 1 = Turned back and took an alternate route [GO TO Q7p.]
4.6% ❒ 2 = Waited for the water to go down & then drove through it [GO TO Q7p.]
29.5% ❒ 3 = Drove through it and made it [GO TO Q7p2.]
2.8% ❒ 4 = Drove through it and got stuck [GO TO Q7p2.]
1.5% ❒ 5 = Don't Remember
4.3% ❒ 6 = Other [PROVIDE RESPONSE VERBATIM]
❒ 9 = Refuse

Q7p. Why did you turn back or wait for the water to go down?
N=201

45.5% ❒ 1 = Was the safe thing to do
6.5% ❒ 2 = I was scared
6.5% ❒ 3 = Was the right thing to do
14.5% ❒ 4 = Water was too high
6.0% ❒ 5 = Saw others having trouble
5.0% ❒ 6 = Other [PROVIDE RESPONSE VERBATIM]
15.0% ❒ 7 = I had learned about the dangers
1.0% ❒ 8 = Don't Know
❒ 9 = Refuse

[INTERVIEWER: DO NOT READ RESPONSES. USE THESE CATEGORIES FOR CODING ONLY!]

Q7p2. Why did you drive through it?

N=105

6.4 ❒	1 = I was in a hurry	[INTERVIEWER: DO NOT READ
42.9 ❒	2 = Didn't think it was unsafe to do so	RESPONSES. USE THESE
0.0 ❒	3 = Thought it would be fun	CATEGORIES FOR CODING
14.3 ❒	4 = Did it before and made it	ONLY!]
6.4 ❒	5 = I didn't know any better	
30.0 ❒	6 = Other [PROVIDE RESPONSE VERBATIM]	
	❒ 8 = Don't Know	
	❒ 9 = Refuse	

Now I'm going to ask you a few questions about the County's flood control system.

Q8. Which of the following statements is true?

59.1% ❒	1 = Streets are a part of the flood control system	[INTERVIEWER: READ ONLY
25.8% ❒	2 = Streets are not a part of the flood control system	THE FIRST TWO RESPONSES
15.0% ❒	9 = Refuse	FOR Q8 AND Q9.]
	❒ 8 = Don't Know/ Not Sure	

Q9. Regarding flood insurance, which of these statements is true?

42.7% ❒	1 = Flood insurance is available to all residents of the LV Valley
31.3% ❒	2 = Flood insurance is not available to all residents of the LV Valley
25.6% ❒	8 = Don't Know/Not Sure
.4% ❒	9 = Refuse

Q10. Do you live in a flood zone?

12.0% ❒	1 = Yes	[INTERVIEWER: DON'T KNOW
73.2% ❒	0 = No	IS A VALID RESPONSE FOR
14.6% ❒	8 = Don't Know	THIS QUESTION. DO NOT
.2% ❒	9 = Refuse	PROBE FURTHER IF
		RESPONDENT ANSWERS,

Q11. Do you have flood insurance? "DON'T KNOW."]

11.4% ❒	1 = Yes
81.1% ❒	0 = No
7.1% ❒	8 = Don't Know
.4% ❒	9 = Refuse

Q12. Overall, how would you rate the way flood control is being handled in the Las Vegas Valley?

13.2% ❒ 1 = Excellent
45.3% ❒ 2 = Good
22.8% ❒ 3 = Fair
10.8% ❒ 4 = Poor
7.9% ❒ 7 = Don't Know
❒ 8 = Refuse

There are just a few more background questions for statistical purposes only.

Q13. Could you please tell me in what year you were born?

[INTERVIEWER: TYPE IN "99" IF RESPONDENT REFUSED. DATA ENTRY IS REQUIRED TO MOVE ON.]

Recoded age
34.6% 18 - 38 years old
30.9% 39 - 55 years old
32.5% 56+ years old
2.0% Refuse

Q14. What is the highest level of education you have completed?

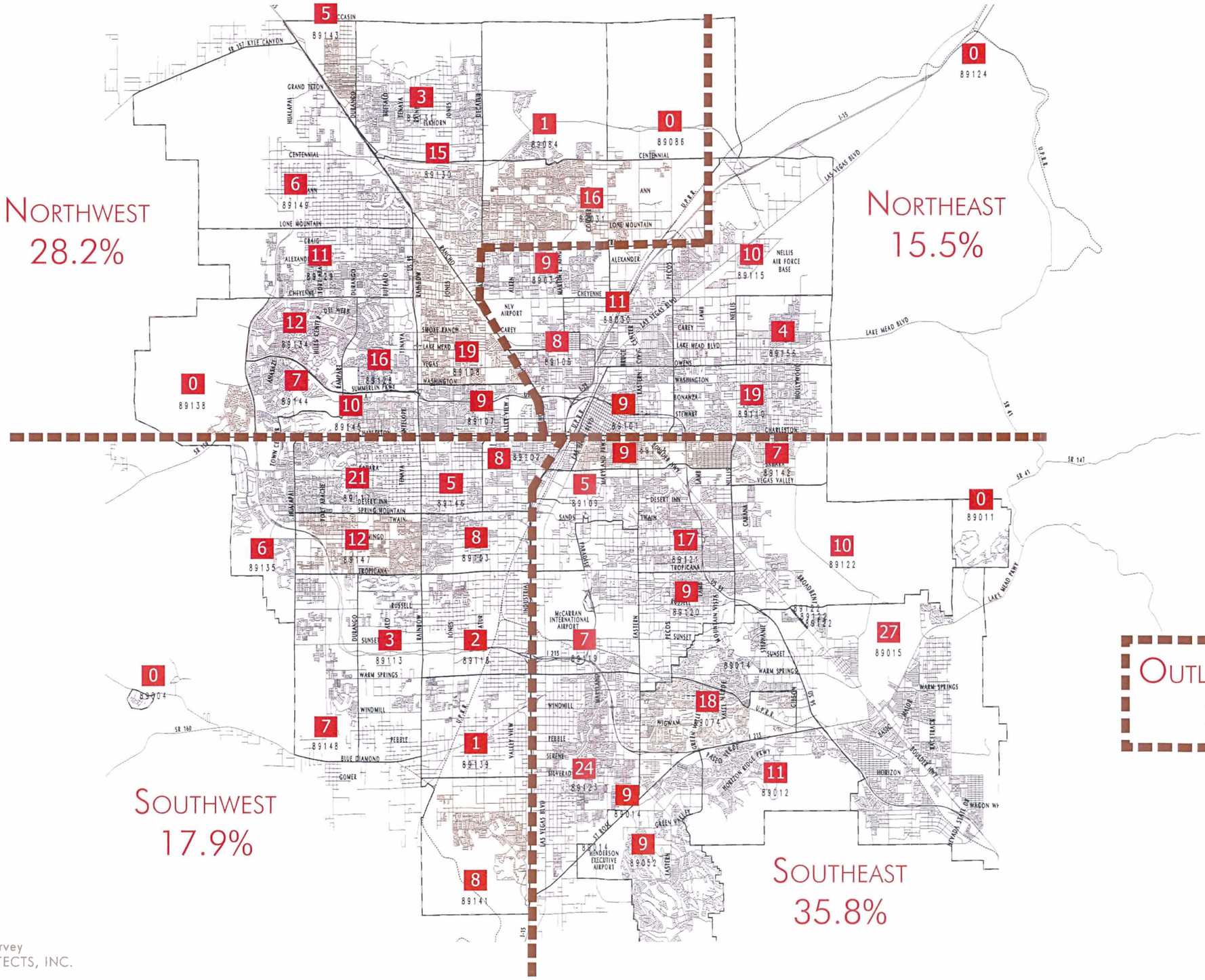
5.7% ❒ 1 = Less than high school graduate
29.0% ❒ 2 = High School Graduate
20.8% ❒ 3 = Some college or trade school
15.7% ❒ 4 = Two year college degree
20.0% ❒ 5 = Four year college degree
3.7% ❒ 6 = Post graduate work
4.1% ❒ 7 = Post graduate or professional degree
❒ 8 = Don't know
1.0% ❒ 9 = Refuse

Thank you so much for your time. Those are all the questions I have for you today. On behalf of the Clark County Regional Flood Control District, thank you for your time. The information that you have provided will help the Flood Control District enhance services to the residents of Clark County.

Q15. RECORD THE GENDER OF THE RESPONDENT [ASK IF YOU ARE NOT SURE.]

43% ❒ 1 = Male
57% ❒ 2 = Female

Clark County Regional Flood Control District
2003 Flood Awareness Survey



2003 Flood Awareness Survey
LUCCHESI GALATI ARCHITECTS, INC.

Table DP-1. Profile of General Demographic Characteristics: 2000

Geographic area: Clark County, Nevada

[For information on confidentiality protection, nonsampling error, and definitions, see text]

Subject	Number	Percent
Total population	**1,375,765**	**100.0**
SEX AND AGE		
Male	699,728	50.9
Female	676,037	49.1
Under 5 years	103,301	7.5
5 to 9 years	104,267	7.6
10 to 14 years	93,132	6.8
15 to 19 years	84,636	6.2
20 to 24 years	92,853	6.7
25 to 34 years	223,355	16.2
35 to 44 years	220,139	16.0
45 to 54 years	178,155	12.9
55 to 59 years	70,904	5.2
60 to 64 years	58,124	4.2
65 to 74 years	90,194	6.6
75 to 84 years	46,171	3.4
85 years and over	10,534	0.8
Median age (years)	34.4	(X)
18 years and over	1,023,995	74.4
Male	518,991	37.7
Female	505,004	36.7
21 years and over	972,705	70.7
62 years and over	180,585	13.1
65 years and over	146,899	10.7
Male	68,351	5.0
Female	78,548	5.7
RACE		
One race	1,318,000	95.8
White	984,796	71.6
Black or African American	124,885	9.1
American Indian and Alaska Native	10,895	0.8
Asian	72,547	5.3
Asian Indian	3,601	0.3
Chinese	10,978	0.8
Filipino	33,062	2.4
Japanese	6,650	0.5
Korean	6,355	0.5
Vietnamese	3,492	0.3
Other Asian [1]	8,409	0.6
Native Hawaiian and Other Pacific Islander	6,412	0.5
Native Hawaiian	3,028	0.2
Guamanian or Chamorro	1,147	0.1
Samoan	1,103	0.1
Other Pacific Islander [2]	1,134	0.1
Some other race	118,465	8.6
Two or more races	57,765	4.2
Race alone or in combination with one or more other races: [3]		
White	1,032,258	75.0
Black or African American	137,477	10.0
American Indian and Alaska Native	20,728	1.5
Asian	90,268	6.6
Native Hawaiian and Other Pacific Islander	12,796	0.9
Some other race	145,037	10.5

Subject	Number	Percent
HISPANIC OR LATINO AND RACE		
Total population	**1,375,765**	**100.0**
Hispanic or Latino (of any race)	302,143	22.0
Mexican	216,397	15.7
Puerto Rican	8,848	0.6
Cuban	10,959	0.8
Other Hispanic or Latino	65,939	4.8
Not Hispanic or Latino	1,073,622	78.0
White alone	828,669	60.2
RELATIONSHIP		
Total population	**1,375,765**	**100.0**
In households	1,356,350	98.6
Householder	512,253	37.2
Spouse	249,720	18.2
Child	385,366	28.0
Own child under 18 years	307,931	22.4
Other relatives	102,404	7.4
Under 18 years	33,656	2.4
Nonrelatives	106,607	7.7
Unmarried partner	37,760	2.7
In group quarters	19,415	1.4
Institutionalized population	11,919	0.9
Noninstitutionalized population	7,496	0.5
HOUSEHOLD BY TYPE		
Total households	**512,253**	**100.0**
Family households (families)	339,693	66.3
With own children under 18 years	162,295	31.7
Married-couple family	249,720	48.7
With own children under 18 years	111,134	21.7
Female householder, no husband present	60,351	11.8
With own children under 18 years	36,023	7.0
Nonfamily households	172,560	33.7
Householder living alone	125,473	24.5
Householder 65 years and over	34,334	6.7
Households with individuals under 18 years	181,163	35.4
Households with individuals 65 years and over	107,591	21.0
Average household size	2.65	(X)
Average family size	3.17	(X)
HOUSING OCCUPANCY		
Total housing units	**559,799**	**100.0**
Occupied housing units	512,253	91.5
Vacant housing units	47,546	8.5
For seasonal, recreational, or occasional use	8,392	1.5
Homeowner vacancy rate (percent)	2.6	(X)
Rental vacancy rate (percent)	9.7	(X)
HOUSING TENURE		
Occupied housing units	**512,253**	**100.0**
Owner-occupied housing units	302,834	59.1
Renter-occupied housing units	209,419	40.9
Average household size of owner-occupied units	2.75	(X)
Average household size of renter-occupied units	2.50	(X)

- Represents zero or rounds to zero. (X) Not applicable.

[1] Other Asian alone, or two or more Asian categories.

[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.

[3] In combination with one or more of the other races listed. The six numbers may add to more than the total population and the six percentages may add to more than 100 percent because individuals may report more than one race.

Source: U.S. Census Bureau, Census 2000.

Table DP-2. Profile of Selected Social Characteristics: 2000

Geographic area: Clark County, Nevada

[Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see text]

Subject	Number	Percent
SCHOOL ENROLLMENT		
Population 3 years and over enrolled in school	**329,929**	**100.0**
Nursery school, preschool	18,512	5.6
Kindergarten	20,761	6.3
Elementary school (grades 1-8)	158,059	47.9
High school (grades 9-12)	68,140	20.7
College or graduate school	64,457	19.5
EDUCATIONAL ATTAINMENT		
Population 25 years and over	**900,400**	**100.0**
Less than 9th grade	62,158	6.9
9th to 12th grade, no diploma	122,840	13.6
High school graduate (includes equivalency)	268,827	29.9
Some college, no degree	237,649	26.4
Associate degree	52,843	5.9
Bachelor's degree	103,152	11.5
Graduate or professional degree	52,931	5.9
Percent high school graduate or higher	79.5	(X)
Percent bachelor's degree or higher	17.3	(X)
MARITAL STATUS		
Population 15 years and over	**1,074,520**	**100.0**
Never married	278,326	25.9
Now married, except separated	562,717	52.4
Separated	27,302	2.5
Widowed	58,373	5.4
Female	45,128	4.2
Divorced	147,802	13.8
Female	79,133	7.4
GRANDPARENTS AS CAREGIVERS		
Grandparent living in household with one or more own grandchildren under 18 years	**33,931**	**100.0**
Grandparent responsible for grandchildren	13,508	39.8
VETERAN STATUS		
Civilian population 18 years and over	**1,018,598**	**100.0**
Civilian veterans	158,864	15.6
DISABILITY STATUS OF THE CIVILIAN NONINSTITUTIONALIZED POPULATION		
Population 5 to 20 years	**296,027**	**100.0**
With a disability	23,630	8.0
Population 21 to 64 years	**814,213**	**100.0**
With a disability	182,423	22.4
Percent employed	61.0	(X)
No disability	631,790	77.6
Percent employed	74.0	(X)
Population 65 years and over	**143,706**	**100.0**
With a disability	58,417	40.7
RESIDENCE IN 1995		
Population 5 years and over	**1,272,872**	**100.0**
Same house in 1995	438,700	34.5
Different house in the U.S. in 1995	774,331	60.8
Same county	413,400	32.5
Different county	360,931	28.4
Same state	11,655	0.9
Different state	349,276	27.4
Elsewhere in 1995	59,841	4.7

Subject	Number	Percent
NATIVITY AND PLACE OF BIRTH		
Total population	**1,375,765**	**100.0**
Native	1,128,014	82.0
Born in United States	1,107,613	80.5
State of residence	262,593	19.1
Different state	845,020	61.4
Born outside United States	20,401	1.5
Foreign born	247,751	18.0
Entered 1990 to March 2000	110,014	8.0
Naturalized citizen	90,437	6.6
Not a citizen	157,314	11.4
REGION OF BIRTH OF FOREIGN BORN		
Total (excluding born at sea)	**247,751**	**100.0**
Europe	24,526	9.9
Asia	58,605	23.7
Africa	4,310	1.7
Oceania	1,035	0.4
Latin America	151,524	61.2
Northern America	7,751	3.1
LANGUAGE SPOKEN AT HOME		
Population 5 years and over	**1,272,872**	**100.0**
English only	942,435	74.0
Language other than English	330,437	26.0
Speak English less than "very well"	163,355	12.8
Spanish	230,951	18.1
Speak English less than "very well"	127,342	10.0
Other Indo-European languages	35,134	2.8
Speak English less than "very well"	9,367	0.7
Asian and Pacific Island languages	55,663	4.4
Speak English less than "very well"	23,723	1.9
ANCESTRY (single or multiple)		
Total population	**1,375,765**	**100.0**
Total ancestries reported	*1,445,974*	*105.1*
Arab	6,183	0.4
Czech[1]	6,676	0.5
Danish	11,024	0.8
Dutch	18,850	1.4
English	118,989	8.6
French (except Basque)[1]	39,230	2.9
French Canadian[1]	8,967	0.7
German	173,180	12.6
Greek	6,525	0.5
Hungarian	7,745	0.6
Irish[1]	136,506	9.9
Italian	93,251	6.8
Lithuanian	2,590	0.2
Norwegian	21,333	1.6
Polish	36,150	2.6
Portuguese	4,833	0.4
Russian	15,627	1.1
Scotch-Irish	16,345	1.2
Scottish	21,944	1.6
Slovak	1,894	0.1
Subsaharan African	10,225	0.7
Swedish	21,404	1.6
Swiss	4,386	0.3
Ukrainian	3,073	0.2
United States or American	63,391	4.6
Welsh	8,754	0.6
West Indian (excluding Hispanic groups)	2,422	0.2
Other ancestries	584,477	42.5

-Represents zero or rounds to zero. (X) Not applicable.

[1]The data represent a combination of two ancestries shown separately in Summary File 3. Czech includes Czechoslovakian. French includes Alsatian. French Canadian includes Acadian/Cajun. Irish includes Celtic.

Source: U.S. Bureau of the Census, Census 2000.

Table DP-3. Profile of Selected Economic Characteristics: 2000

Geographic area: Clark County, Nevada

[Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see text]

Subject	Number	Percent
EMPLOYMENT STATUS		
Population 16 years and over	**1,058,120**	**100.0**
In labor force	688,917	65.1
Civilian labor force	682,073	64.5
Employed	637,339	60.2
Unemployed	44,734	4.2
Percent of civilian labor force	6.6	(X)
Armed Forces	6,844	0.6
Not in labor force	369,203	34.9
Females 16 years and over	**522,867**	**100.0**
In labor force	307,548	58.8
Civilian labor force	306,605	58.6
Employed	286,026	54.7
Own children under 6 years	**116,637**	**100.0**
All parents in family in labor force	65,377	56.1
COMMUTING TO WORK		
Workers 16 years and over	**631,236**	**100.0**
Car, truck, or van - - drove alone	471,036	74.6
Car, truck, or van - - carpooled	92,730	14.7
Public transportation (including taxicab)	27,959	4.4
Walked	14,695	2.3
Other means	10,439	1.7
Worked at home	14,377	2.3
Mean travel time to work (minutes)[1]	24.3	(X)
Employed civilian population 16 years and over	**637,339**	**100.0**
OCCUPATION		
Management, professional, and related occupations	155,520	24.4
Service occupations	171,589	26.9
Sales and office occupations	177,727	27.9
Farming, fishing, and forestry occupations	653	0.1
Construction, extraction, and maintenance occupations	71,502	11.2
Production, transportation, and material moving occupations	60,348	9.5
INDUSTRY		
Agriculture, forestry, fishing and hunting, and mining	1,724	0.3
Construction	62,115	9.7
Manufacturing	23,478	3.7
Wholesale trade	15,064	2.4
Retail trade	71,237	11.2
Transportation and warehousing, and utilities	32,410	5.1
Information	14,464	2.3
Finance, insurance, real estate, and rental and leasing	43,631	6.8
Professional, scientific, management, administrative, and waste management services	58,783	9.2
Educational, health and social services	74,923	11.8
Arts, entertainment, recreation, accommodation and food services	191,596	30.1
Other services (except public administration)	24,656	3.9
Public administration	23,258	3.6
CLASS OF WORKER		
Private wage and salary workers	541,158	84.9
Government workers	68,189	10.7
Self-employed workers in own not incorporated business	26,614	4.2
Unpaid family workers	1,378	0.2

Subject	Number	Percent
INCOME IN 1999		
Households	**512,714**	**100.0**
Less than $10,000	36,317	7.1
$10,000 to $14,999	26,040	5.1
$15,000 to $24,999	63,685	12.4
$25,000 to $34,999	67,214	13.1
$35,000 to $49,999	92,987	18.1
$50,000 to $74,999	110,363	21.5
$75,000 to $99,999	57,155	11.1
$100,000 to $149,999	38,553	7.5
$150,000 to $199,999	9,584	1.9
$200,000 or more	10,816	2.1
Median household income (dollars)	44,616	(X)
With earnings	430,319	83.9
Mean earnings (dollars)[1]	55,875	(X)
With Social Security income	118,995	23.2
Mean Social Security income (dollars)[1]	11,431	(X)
With Supplemental Security Income	15,704	3.1
Mean Supplemental Security Income (dollars)[1]	6,963	(X)
With public assistance income	12,104	2.4
Mean public assistance income (dollars)[1]	2,982	(X)
With retirement income	89,044	17.4
Mean retirement income (dollars)[1]	18,603	(X)
Families	**342,405**	**100.0**
Less than $10,000	15,956	4.7
$10,000 to $14,999	11,586	3.4
$15,000 to $24,999	35,459	10.4
$25,000 to $34,999	42,042	12.3
$35,000 to $49,999	63,818	18.6
$50,000 to $74,999	82,140	24.0
$75,000 to $99,999	44,614	13.0
$100,000 to $149,999	30,570	8.9
$150,000 to $199,999	7,645	2.2
$200,000 or more	8,575	2.5
Median family income (dollars)	50,485	(X)
Per capita income (dollars)[1]	21,785	(X)
Median earnings (dollars):		
Male full-time, year-round workers	35,243	(X)
Female full-time, year-round workers	27,077	(X)

Subject	Number below poverty level	Percent below poverty level
POVERTY STATUS IN 1999		
Families	**26,886**	**7.9**
With related children under 18 years	21,377	11.8
With related children under 5 years	12,038	14.8
Families with female householder, no husband present	**11,914**	**20.3**
With related children under 18 years	10,811	26.2
With related children under 5 years	5,520	34.7
Individuals	**145,855**	**10.8**
18 years and over	95,880	9.5
65 years and over	10,552	7.3
Related children under 18 years	48,035	14.1
Related children 5 to 17 years	31,454	13.1
Unrelated individuals 15 years and over	50,097	18.5

-Represents zero or rounds to zero. (X) Not applicable.

[1]If the denominator of a mean value or per capita value is less than 30, then that value is calculated using a rounded aggregate in the numerator. See text.

Source: U.S. Bureau of the Census, Census 2000.

Table DP-4. Profile of Selected Housing Characteristics: 2000

Geographic area: Clark County, Nevada

[Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see text]

Subject	Number	Percent
Total housing units	**559,799**	**100.0**
UNITS IN STRUCTURE		
1-unit, detached	288,011	51.4
1-unit, attached	33,790	6.0
2 units	6,229	1.1
3 or 4 units	47,037	8.4
5 to 9 units	51,944	9.3
10 to 19 units	36,018	6.4
20 or more units	62,183	11.1
Mobile home	32,962	5.9
Boat, RV, van, etc	1,625	0.3
YEAR STRUCTURE BUILT		
1999 to March 2000	39,997	7.1
1995 to 1998	128,550	23.0
1990 to 1994	101,903	18.2
1980 to 1989	115,562	20.6
1970 to 1979	96,185	17.2
1960 to 1969	48,318	8.6
1940 to 1959	26,548	4.7
1939 or earlier	2,736	0.5
ROOMS		
1 room	19,739	3.5
2 rooms	39,653	7.1
3 rooms	71,118	12.7
4 rooms	97,332	17.4
5 rooms	117,914	21.1
6 rooms	97,359	17.4
7 rooms	58,188	10.4
8 rooms	32,644	5.8
9 or more rooms	25,852	4.6
Median (rooms)	4.9	(X)
Occupied housing units	**512,253**	**100.0**
YEAR HOUSEHOLDER MOVED INTO UNIT		
1999 to March 2000	166,599	32.5
1995 to 1998	192,827	37.6
1990 to 1994	81,863	16.0
1980 to 1989	43,787	8.5
1970 to 1979	18,652	3.6
1969 or earlier	8,525	1.7
VEHICLES AVAILABLE		
None	48,636	9.5
1	206,117	40.2
2	192,530	37.6
3 or more	64,970	12.7
HOUSE HEATING FUEL		
Utility gas	280,198	54.7
Bottled, tank, or LP gas	6,261	1.2
Electricity	223,277	43.6
Fuel oil, kerosene, etc	316	0.1
Coal or coke	16	-
Wood	614	0.1
Solar energy	153	-
Other fuel	242	-
No fuel used	1,176	0.2
SELECTED CHARACTERISTICS		
Lacking complete plumbing facilities	2,178	0.4
Lacking complete kitchen facilities	3,244	0.6
No telephone service	11,437	2.2
OCCUPANTS PER ROOM		
Occupied housing units	**512,253**	**100.0**
1.00 or less	464,936	90.8
1.01 to 1.50	23,574	4.6
1.51 or more	23,743	4.6
Specified owner-occupied units	**254,708**	**100.0**
VALUE		
Less than $50,000	1,899	0.7
$50,000 to $99,999	38,699	15.2
$100,000 to $149,999	111,370	43.7
$150,000 to $199,999	56,100	22.0
$200,000 to $299,999	30,633	12.0
$300,000 to $499,999	11,650	4.6
$500,000 to $999,999	3,309	1.3
$1,000,000 or more	1,048	0.4
Median (dollars)	139,500	(X)
MORTGAGE STATUS AND SELECTED MONTHLY OWNER COSTS		
With a mortgage	214,019	84.0
Less than $300	334	0.1
$300 to $499	3,214	1.3
$500 to $699	11,947	4.7
$700 to $999	50,655	19.9
$1,000 to $1,499	95,019	37.3
$1,500 to $1,999	34,443	13.5
$2,000 or more	18,407	7.2
Median (dollars)	1,185	(X)
Not mortgaged	40,689	16.0
Median (dollars)	290	(X)
SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME IN 1999		
Less than 15.0 percent	68,778	27.0
15.0 to 19.9 percent	42,082	16.5
20.0 to 24.9 percent	39,675	15.6
25.0 to 29.9 percent	29,524	11.6
30.0 to 34.9 percent	19,982	7.8
35.0 percent or more	52,311	20.5
Not computed	2,356	0.9
Specified renter-occupied units	**209,187**	**100.0**
GROSS RENT		
Less than $200	3,697	1.8
$200 to $299	3,103	1.5
$300 to $499	21,322	10.2
$500 to $749	86,301	41.3
$750 to $999	61,398	29.4
$1,000 to $1,499	24,868	11.9
$1,500 or more	3,090	1.5
No cash rent	5,408	2.6
Median (dollars)	716	(X)
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME IN 1999		
Less than 15.0 percent	30,402	14.5
15.0 to 19.9 percent	29,976	14.3
20.0 to 24.9 percent	28,981	13.9
25.0 to 29.9 percent	24,554	11.7
30.0 to 34.9 percent	18,316	8.8
35.0 percent or more	66,135	31.6
Not computed	10,823	5.2

-Represents zero or rounds to zero. (X) Not applicable.

Source: U.S. Bureau of the Census, Census 2000.

Survey Purpose

An important component of the Clark County Regional Flood Control District's Public Information Program is evaluation. In October 1999, the District conducted its first flood awareness study to measure citizen awareness of the dangers of flash flooding in Clark County. The survey has been replicated every year since 1999 and longitudinal comparisons have been conducted.

Lucchesi Galati Architects designed a 15-question survey and it was administered by telephone to 492 randomly selected, English speaking Clark County residents during the month of October 2003. The survey collected data on the following topics:

- Awareness of flash flooding in the Las Vegas Valley.
- General knowledge of various subjects relating to flash flooding.
- Sources of flash flooding education and information.
- Behavioral tendencies when encountering a flooded street or road in the Las Vegas Valley.
- Knowledge of the availability of flood insurance.
- Demographics and program recall of respondents who have watched *The Flood Channel*.
- Opinion of how well flood control is being handled in the Las Vegas Valley.

REGIONAL FLOOD CONTROL DISTRICT

Clark County Regional Flood Control District 2003 Flood Awareness Survey (N=492) SUMMARY SHEET

CHARACTERISTICS OF THE SAMPLE

As shown below, demographic information collected from survey respondents included location of their residence (by zip code), length of time living in Clark County, age, level of education, and gender. These data are representative of Clark County and generally coincide with the U.S. Census Bureau demographic profile of Clark County and Clark County Comprehensive Planning statistics, respectively. According to Clark County Comprehensive Planning, the total population of Clark County is 1.6 million and there are 611,161 total households in Clark County. The margin of error for the study is +/- 5%.

Education

5.7%	Less than high school
29.0%	High school graduate
20.8%	Some college or trade
15.7%	Two year college degree
20.0%	Four year college degree
3.7%	Post graduate work
4.1%	Post graduate degree
0.0%	Don't know
1.0%	Refused to answer

Length of time living in Clark County

6.1%	Less than 6 months
4.3%	6 months to less than 1 year
9.3%	1 year to less than 3 years
14.8%	3 years to less than 6 years
17.5%	6 years to less than 10 years
47.2%	Longer than 10 years
.8%	Refused to answer

Gender

43.0%	Male
57.0%	Female

Age of Respondent

34.6%	18 - 38 years old
30.9%	39 - 55 years old
32.5%	56+ years old
2.0%	Refused to answer

GENERAL KNOWLEDGE OF VARIOUS SUBJECTS RELATING TO FLASH FLOODING

Issue	Agree	Disagree
I know about the dangers of flash flooding	98%	2%
I know about the time of year flash flooding is most likely to occur in the Las Vegas Valley	84%	16%
I know about the safety precautions relating to flash flooding	90%	10%
I know about the resources available to learn more about flash flooding	57%	43%
I know about ways in which flooding is being controlled in the Las Vegas Valley	77%	23%
I know about the availability of flood insurance	73%	27%

Future Steps

- Data collected in the 2003 Flood Awareness Survey indicates that the District's Public Information Program is successful on many levels. However, due to the transient and changing nature of our Valley's demographic, the unpredictable nature of our area's weather patterns, the uncompleted flood control infrastructure work, and the mission and vision of the Regional Flood Control District, the District should continue to support and enhance its Public Information Program.

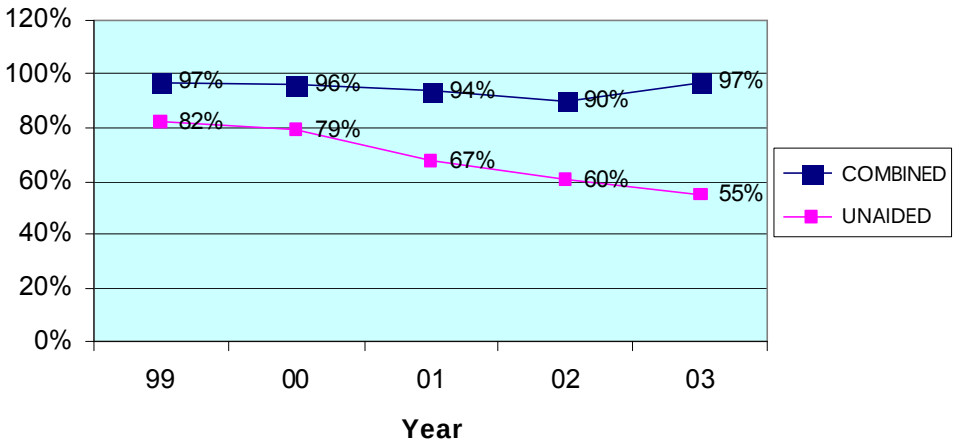
- To get a more robust and accurate picture of flood awareness and knowledge within Clark County, the 2004 Flood Awareness Survey should be administered bilingually to reach the Spanish speaking subpopulation of Clark County, which is currently estimated to be 24 percent of Clark County's total population. According to Nevada State Demographer, Jeff Hardcastle, by year 2022 Clark County's total population will be 2,129,147 and 32 percent will be of Hispanic origin, many of whom may not speak English.

REGIONAL FLOOD CONTROL DISTRICT

AWARENESS OF FLOODING IN THE LAS VEGAS VALLEY

When looking at the total number of respondents in both the prompted ("Are you aware that flash flooding can occur here in the Las Vegas Valley?) and unprompted questions ("What types of weather related natural disasters are you aware of that occur in the Las Vegas Valley?"), 97 percent of the sample was aware of flooding as a weather related natural disaster in the Las Vegas Valley. The chart below displays data collected from 1999 to 2003 relating to flood awareness among Clark County residents.

Flood Awareness Comparison 1999 - 2003



PROGRAM RECALL OF RESPONDENTS WHO HAVE WATCHED *THE FLOOD CHANNEL*

According to Cox Communications and Nielson Media Research, approximately 440,000 households or 75% of total households in Clark County have access to cable television. Data collected from this year's flood awareness survey supports Cox and Nielson data as shown by 76 percent of the sample having cable services. Of those respondents who have cable television, 48 percent reported to have watched *The Flood Channel* on either cable channels 2 or 4. When extrapolated to general population statistics, these data indicate that approximately 211,200 households in Clark County have likely viewed *The Flood Channel*. The chart below shows the items most frequently mentioned when asked, "What do you remember the most from watching *The Flood Channel*?"

Rank	Item	%
1	Dangers of flash flooding	42%
2	Safety Precautions	13%
3	Ways floods are controlled	12%
4	Other	7%
5	Projects/ Info on the Flood District	4%
6	Don't drive through it	3%
6	Time of year flash flooding occurs	3%
6	Where to learn more about flooding	3%

Future Steps

- The District should continue to enhance its Public Information Program by using a combination of active educational interventions, such as direct mail pieces, and passive educational interventions, such as public service announcements through television and radio mediums.
- Continue airing *The Flood Channel* with program emphasis on information and education regarding flash flood season, insurance availability, what to do when encountering a flooded street, elements of the flood control system, and sources of information about flood control.
- Of the 59 respondents who said they live in a flood zone, only 16 reported to have flood insurance, indicating more education is needed on the subject of flood insurance.

REGIONAL FLOOD CONTROL DISTRICT

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OPINION OF HOW WELL FLOOD CONTROL IS BEING HANDLED IN THE LAS VEGAS VALLEY

Flood control got a "good" rating from a large percentage of respondents (45%), while 23 percent rated flood control as "fair." Thirteen percent rated flood control in the Valley as "excellent," while 11 percent rated it as "poor." Eight percent of respondents did not know how to rate the way flood control is being handled in the Valley.

SOURCES OF FLASH FLOODING EDUCATION/INFORMATION

Survey respondents were asked to answer "yes" or "no" to a list that was read to them of possible sources for obtaining information about floods. The following table presents the responses in rank order.

Rank	Source	% 2003	% 2002	% change
1	Television	88%	91%	-3%
2	Radio	59%	39%	**+20%**
3	Newspapers	58%	54%	**+4%**
4	Billboards	48%	49%	-1%
5	Other Friends and Relatives	47%	48%	-1%
6	Brochures	25%	16%	**+9%**
7	Bus Stop Shelter Ads	22%	14%	**+8%**
8	Your School Age Children	20%	11%	**+9%**
9	Magazines	18%	7%	**+11%**
10	Government Website	13%	Not asked	

As can be seen in the table, radio, brochures, magazines, and school age children increased as an information source to Valley residents when compared to data collected in 2002. In 2003, the District increased its public information efforts in these areas which may account for the positive change in these categories.

KNOWLEDGE OF AVAILABILITY OF FLOOD INSURANCE

All respondents were asked to respond to the following: "flood insurance is available to all residents of the Las Vegas Valley" and "flood insurance is not available to all residents of the Las Vegas Valley." Forty-three percent of respondents answered the question correctly by reporting that "flood insurance is available to all residents of the Las Vegas Valley." A larger percentage (57%) answered the question incorrectly or did not know.

BEHAVIOR WHEN ENCOUNTERING A FLOODED STREET

Sixty-two percent made a positive choice when encountering a flooded road, and among this group, 57 percent "turned back and took an alternative route," and 5 percent "waited for the water to go down and then drove through it." Among the 32 percent of respondents who did not make a positive choice when encountering a flooded road, 29 percent "drove through and made it," and 3 percent "drove through and got stuck."