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Clark County Regional Flood Control District
2008 Flood Awareness Survey

Summary of Results

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RESEARCH METHODOLOGY

The Clark County Regional Flood Control District (CCRFCD) contracted with the UNLV Cannon Survey Center (CSC) to conduct a flood awareness survey with residents of Clark County. Computer Assisted Telephone Interviewing (CATI) methodology was used for this survey. After a pilot testing session during the last week in September, 2008, the telephone survey was conducted during the period between October 1 and November 7, 2008, the calls were made on various days of the week between the hours of 11:00 a.m. and 8:00 p.m. Each individual interview lasted between 5 and 7 minutes and a total of 701 interviews were completed. Using 2007 figures for Clark County obtained from the Nevada State Demographer there are approximately 1,491, 872 adults over the age of 18 residing in Clark County. A sample size of 701 yields a margin of error of +/- 3.7% at the 95% confidence level.

In order to obtain a representative sample of the area, numbers were purchased from Survey Sampling, Inc. (SSI). SSI has been providing scientific samples for research since 1977. A list of 5,216 numbers was obtained that included both listed and unlisted working numbers in Clark County.

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 seven (7) 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.

The Cannon Survey Center has 15 interviewing stations. The interviewing staff, which is comprised of a demographically diverse group of 23 interviewers, received training in interviewing techniques and survey methodology prior to making any calls. The CSC utilizes Sawtooth Technology software for its CATI system.

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; d) how to maximize respondent cooperation; e) operation of CATI software and f) 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 any term or questions that needed a precise definition or clarification, such as the definition of “flooded street.” These definitions were programmed into the CATI system and available to the interviewers on the pages that they need them.

In addition to either the director and/or the data collection supervisor, all interviewers were monitored by phone room supervisors. One field supervisor or senior interviewer 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.

At the conclusion of the interviewing phase, data were cleaned and then analyzed using SPSS 14.0 software. The software is a comprehensive statistical software system that aids the data analysis process at many levels, with procedures ranging form 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.

In addition, in order to include the responses of Non-English speaking respondents, the survey instrument was translated into Spanish. All calls that were coded as a language barrier were turned over to experienced native speaking Spanish interviewers, who then made follow-up calls in an attempt to complete the interview. There were 90 calls initially coded as a language barrier. From this sub-list of 90, 55 were identified as Spanish speaking respondents, 51 interviews were completed. This represents 93% of the sub-set and approximately 7% of the completed interviews.

From the sample of 5,216 numbers, 1,899 numbers were not eligible because they were "fax/data lines (N = 365), "disconnected numbers (N = 712), "non working numbers" (N = 373), "business or group quarters (N = 417), "cell phones (N =5), and "no eligible respondent" (N = 27). These disposition codes are defined by the American Association of Public Opinion Researchers (AAPOR). From the list of 3,320 eligible numbers, 701 interviews were completed. Calculating the response rate using AAPOR, Response Rate 4 (RR4)[1] which is the number of complete and partial interviews divided by the number of interviews (complete or partial) plus the number of non-interviews (refusal and break-off plus non-contacts others) plus all cases of unknown eligibility and an estimate of what proportion of the cases of unknown eligibility actually are eligible yields a response rate of .260. The cooperation rate was .592 (CR4). The disposition of all numbers is provided in the table below.

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[1] Response Rate 4: RR4= (I + P)/(I+P)+(R + NC + O) + e(UH + UO)

Table 1: Call Dispositions

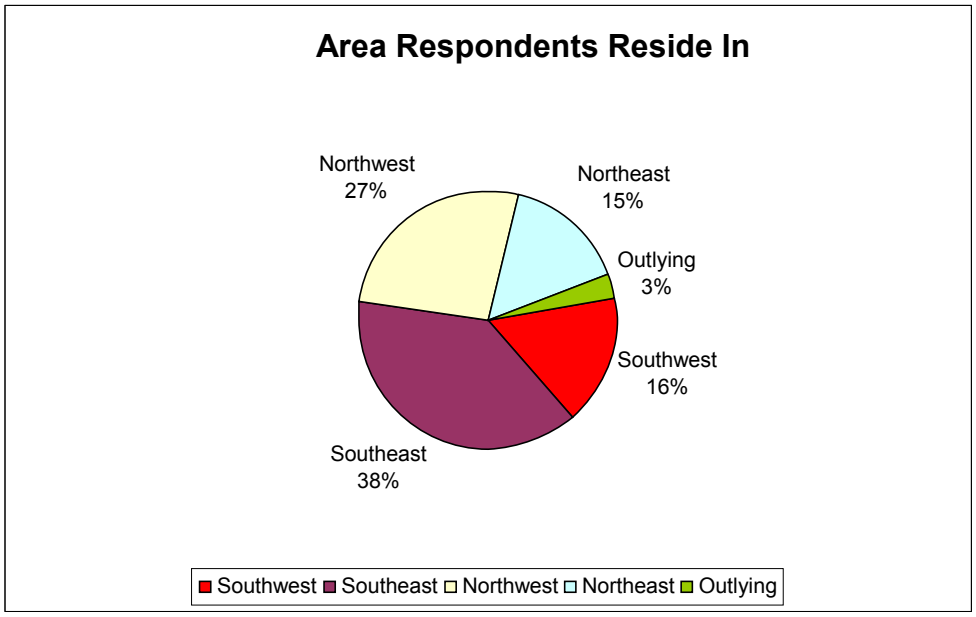
Disposition of Call	N (Count)
Complete	701
Partial	4
Eligible: Refusal, Household Level	140
Eligible: Refusal, Known Respondent	1
Eligible: Hard Refusal	107
Eligible: Break-off	64
Eligible: Respondent Never Available	17
Eligible: Ans. Mach, Message	35
Eligible: Ans. Mach, No Message	511
Eligible: Phys/Mentally Unable	24
Eligible: Language Unable	35
Eligible: Misc. Unable	1
Busy	120
No Answer	704
Ans. Mach (Don't Know if HU)	335
Technical Phone Problems	93
Fax/Data Line	365
Non-working Number	373
Disconnected Number	712
Number Changed	0
Cell Phone	4
Call Forwarding	1
Business/Government/Other Org	415
Group Quarter	2
No Eligible Respondent	27
Quota Filled	
Callback, Resp Not Selected	200
Callback, Respondent Selected	42
Spanish Speaker	4
Never Call	174
TOTAL ATTEMPTED	5213
Not Attempted	3
TOTAL SAMPLE	5216

PROJECT SUMMARY

Characteristics of the Sample:

As in previous administrations of the survey, five demographic variables were used to create the sub-sets for data analysis. They are "area of Clark County respondent resides in", "length of time in Clark County", "age", "level of education" and "gender". In addition, a sub-set of 51 respondents, (7% of the total) was created by administering the survey in Spanish to non-English speaking respondents.

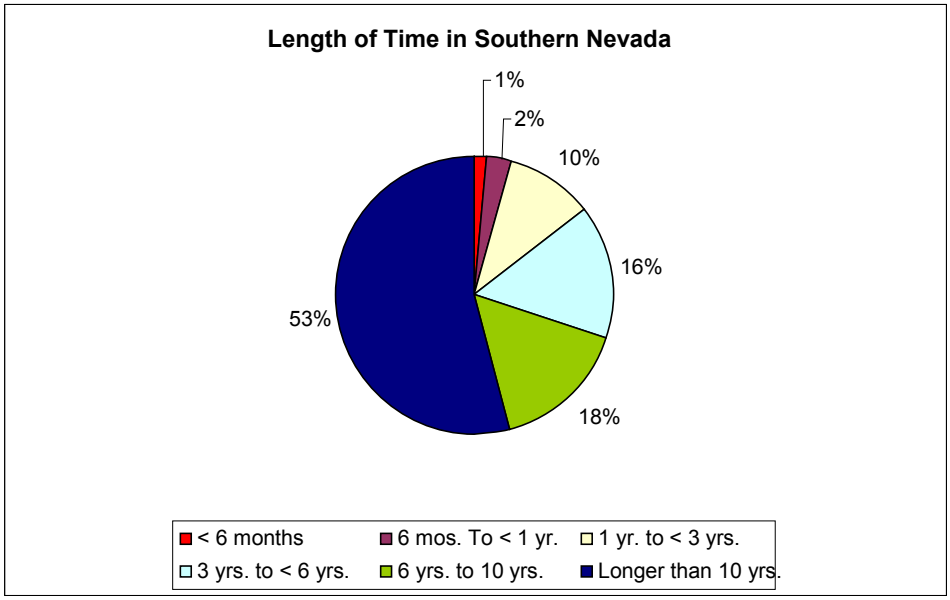
Area of Residency[2]



As can be seen from the graph above, 38% (N = 264) of respondents live in the Southeast section of Clark County (39%, 2007), 27% (N = 179) are from the Northwest (35%, 2007), 15% (N = 107) are from the Northeast (10%, 2007), and 16% (N = 114) are from the Southwest (14%, 2007) region of Clark County. Respondents residing in outlying areas such as Mesquite, Boulder City, and Logandale represent 3 % (N = 21) of the completed surveys (2 %, 2007).

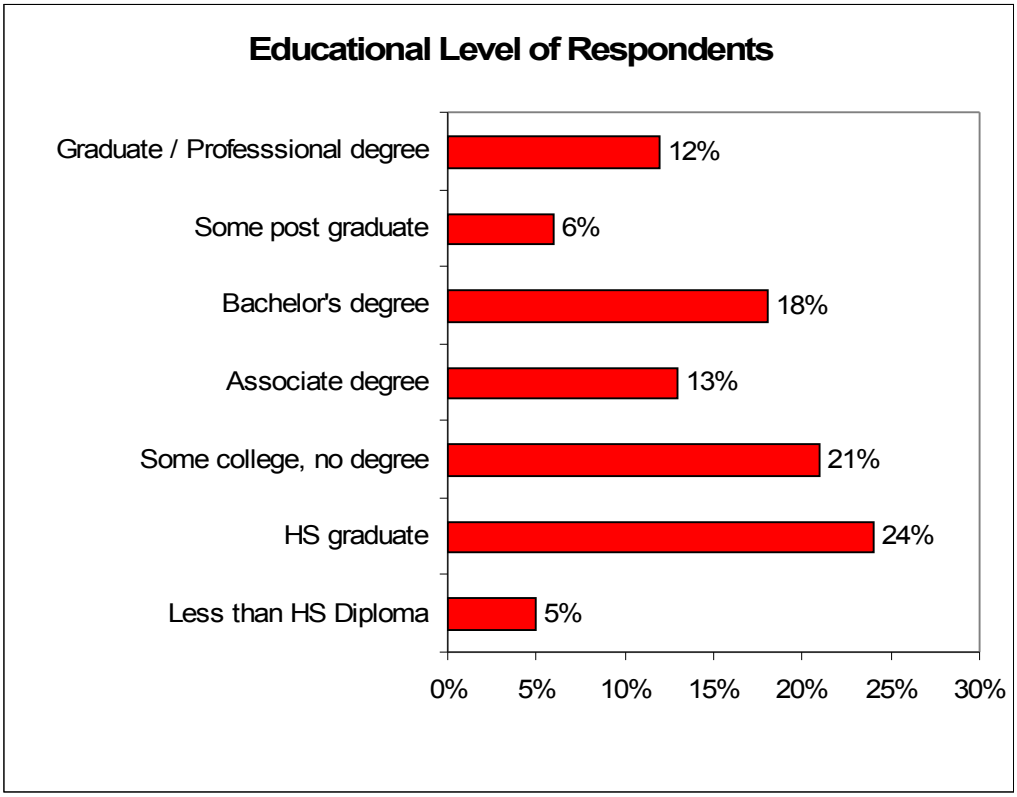
[2] Percentages do not add up to 100%, refusals (3%) are not illustrated.

Length of Time Respondent Has Lived in Southern Nevada



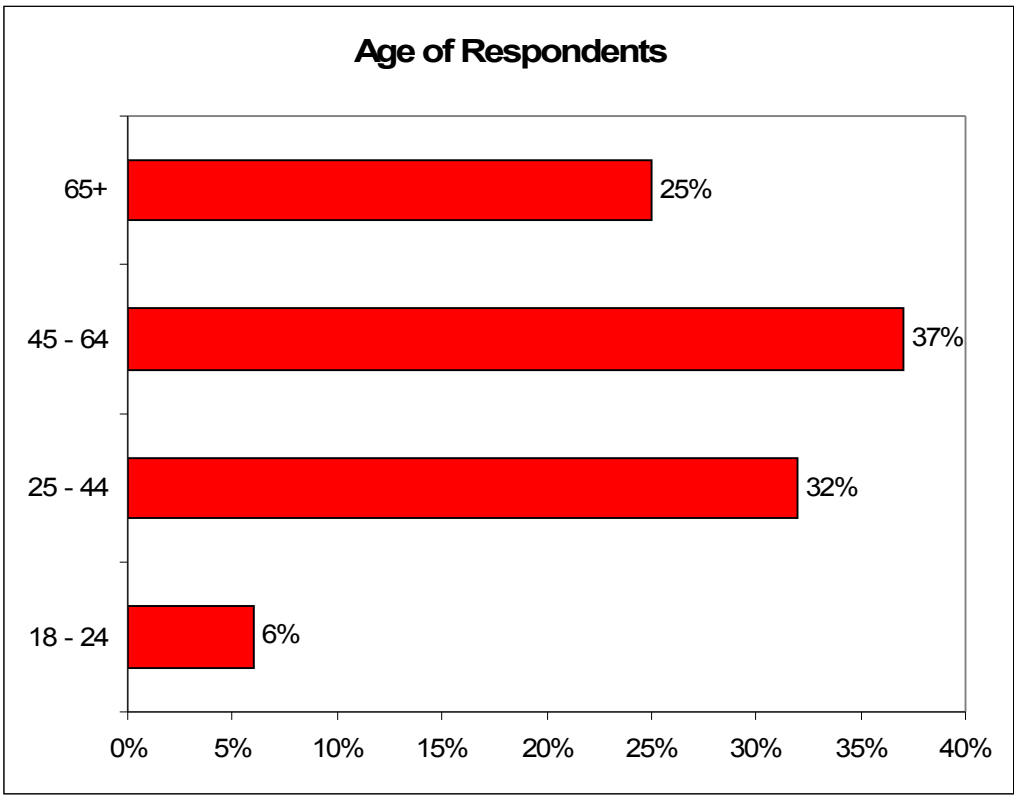
As the graph above indicates, more than half of the respondents (53%) are long time residents of Southern Nevada having lived here longer than 10 years (N = 369). This is followed by 18% of respondents who have lived here for between 6 and 10 years (N = 125) and 16% who have lived in Southern Nevada between 3 and 6 years (N = 112). Ten percent have resided in Southern Nevada between 1 and 3 years (N = 70), and only a very small percentage (3%) indicated that they have lived in Southern Nevada a year or less (N = 25) with 2% indicating that they have lived here between 6 months and a year, and 1% indicated that they have lived here 6 months or less. These percentages are similar to those obtained in last year's administration of the survey and differ by less than one percentage point across all variables.

Educational Level of Respondents



The graph above represents the educational level of the survey participants. As is indicated, the response with the highest incidence is the 24% of respondents who have graduated from high school as their highest level of education; this is followed by 21% of respondents who have attended some college but have not obtained a degree and 18% of respondents who have obtained a Bachelor's degree. The percentage of respondents with less than a high school diploma (5%) is the same as the 2007 data; the number of respondents who have obtained a post graduate degree is similar to last year (12%, 2008, 11%, 2007) The other levels of education remain fairly constant to data obtained in past administrations of this survey, with 6% who indicated that they have completed some post graduate work and 13% have obtained an Associate degree.

Age and Gender



When looking at the age of the respondents, the graph above shows that the largest number of respondents (37%) fall between the ages of 45 and 64. Twenty-six percent (25%) of respondents fell into the oldest age stratum (65+), and 32% were between the ages of 25 and 44. Only 6% of respondents were between the ages of 18 and 24. The median age was 51. This is a year younger than the median age obtained in the 2007 administration of the survey, in addition the mean age was 54 and the data produced bimodal results for age (93,59,48, and 38 years, N = 17).

Gender Distribution

- 37% Male (N = 262)
- 63% female (N = 439)

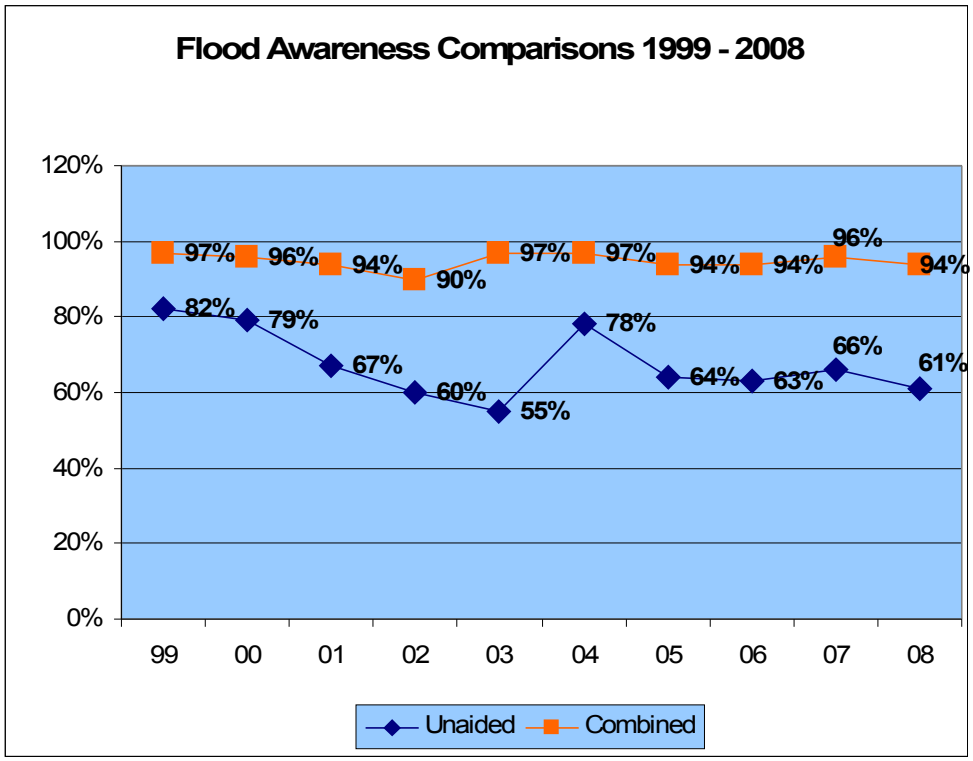
Awareness of Flooding and Weather Related Natural Disasters

Unaided Awareness: The respondents are not told which Clark County Agency that the survey is being conducted for unless they ask and then the information is provided at the conclusion of the survey. This is to intentionally keep the slate clean for the first question in the survey which is "Are you aware of any weather related dangers that can occur in the area?" Seventy-four percent (N = 517) (78%, 2007) of respondents reported that they were aware of weather related dangers that can occur in the area. These 517 respondents form the sub-set from which the unaided awareness of flooding data is determined. This group was asked the follow-up question "What types of weather related dangers are you aware of that can occur in the area?" From this group 425 were able to answer "flood" or "flash flood" unaided. This represents 82% of the sub-set and 61% of the entire sample who were able to mention "flood" unprompted. These percentages for unaided awareness are somewhat lower than the percentages obtained during the 2007 administration of the survey (63% of the sample and 84% of the subset).

Aided Awareness: Respondents who reported that they were not aware of any weather related natural disasters that can occur in Clark County (N = 179) and respondents who did not mention "floods" of "flash floods" in the unprompted question (N = 92), or those that had no response (N = 5) were asked directly "Are you aware that flash flooding occurs in the area?" Eighty-six (86%) percent (N =237) of respondents from this sub-set were aware that flash flooding can occur. This is similar to the data collected in 2007 when aided awareness was 87%.

Combined/Total Awareness: When looking at the total number of respondents (N = 662) in both the prompted (N = 237) and unprompted questions (N = 425), 94 percent of respondents are aware that flooding can occur in Clark County. This figure is similar to the figure for combined awareness that was obtained in the 2007 administration of the survey (96% combined awareness).

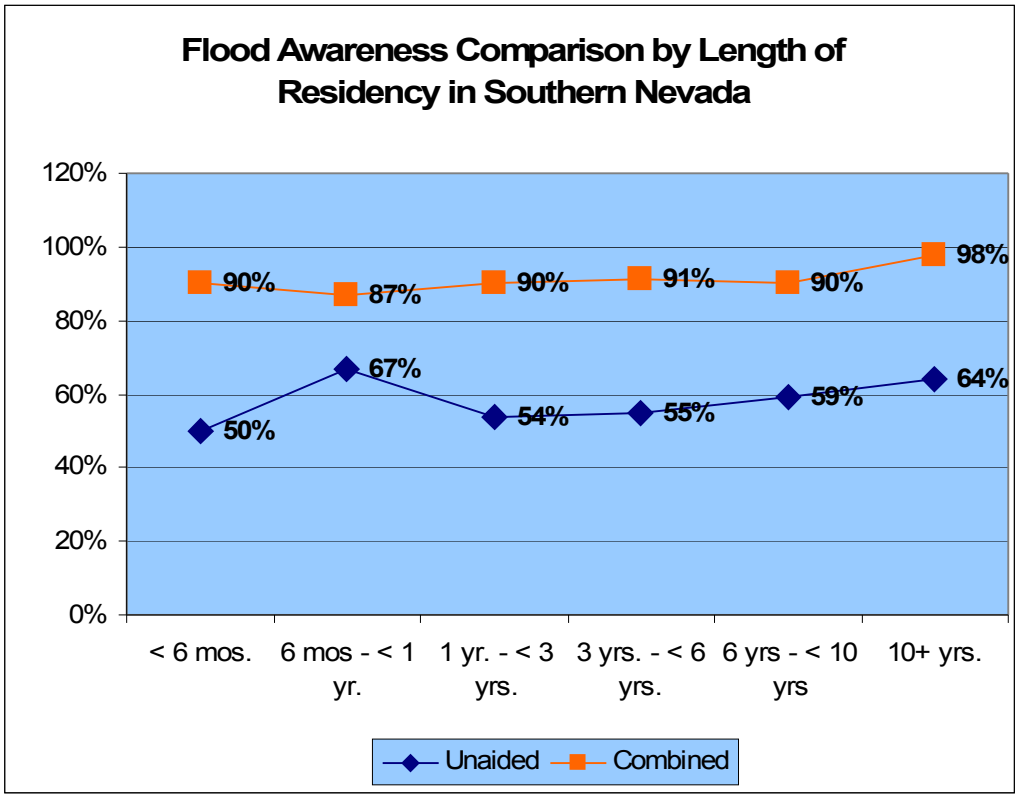
Awareness of Flooding Comparisons 1999 – 2008



As is indicated by the graph above, the combined awareness (total of prompted and unprompted responses), continues to remain very high at 94%. In the ten years that data has been collected combined awareness has never gone below 90%; in three years, 1999, 2003 and 2004 a high of 97% was obtained for combined awareness. This year 94% score is consistent with the mean generated for the past ten years (94.9%).

When looking at the data for respondents who were able to answer "flooding" or "flash flooding" unaided this year (2008) 61% of the sample was could do so. In the ten years that the data has been collected the percentage of respondents who could mention "flooding" of "flash flooding" unaided has fluctuated between a high of 82% in 1999 to a low of 55% in 2003. This year's percentage of 61% is consistent with the mean generated for the past ten years (67.5%) The data in both of these categories has remained consistent for the past four years.

Awareness of Flooding Among Sub-Populations: Length of Time in Southern Nevada [3]



The graph above displays the differences in responses by the length of time that the respondent has lived in Southern Nevada. The graph indicates a consistently high percentage of respondents in all of the length of residency groups are able to mention "floods" or "flash flooding" in an aided or unaided situation (combined), with percentages ranging from a low of 87% for those who have lived here between 6 months and a year to 98% for those who have lived in the area for 10 years or longer.

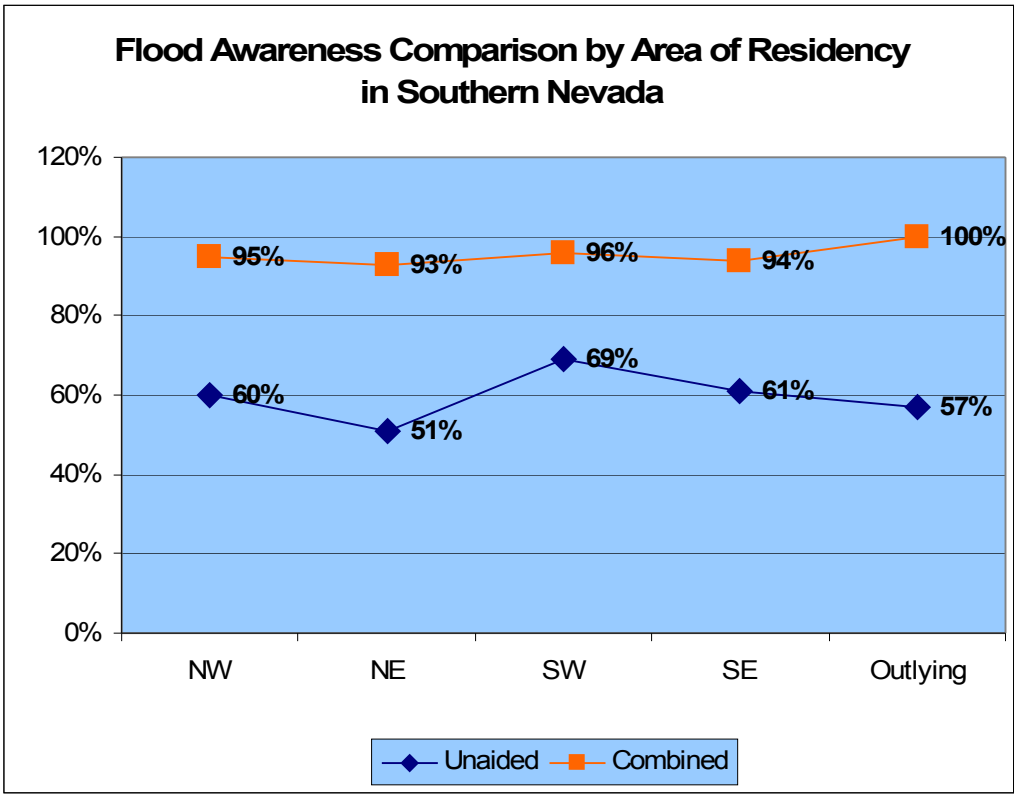
When looking at unaided awareness by the length of time that the respondent has resided in Southern Nevada the percentages range from a low of 50% for the newest residents (less than 6 months) to a high of 67% for those who have resided in the area between six months and a year.

[3] For this graph and all similar graphs unaided data compiled for total number in the group and combined is compiled for the total number of aided and unaided responses in the group.

There are some differences in the responses of the newest residents to Nevada between this years' data (2008) and the 2007 data. In the unaided category half (50%) of those who have lived in Southern Nevada for less than six months could mention "flood" or "flash flooding" unaided, this compared to only 36% of newcomers who could do so during the 2007 administration of the survey. In addition, when looking at combined awareness, 90% of the respondents from this group were able to mention "flood" or "flash flooding compared to 82% who could do so in 2007. In fact, there has been a steady increase in combined awareness among newcomers (less than six months) in the past three years. Since 2006, combined overall awareness among Southern Nevada newest residents has increased 20 percentage points from 70% in 2006 to 90% in 2008. Combined total awareness also rose a few percentage points between the 2007 data (96%) and this year's data (98%) for those who have lived in Southern Nevada for 10 years or longer.

However, in the other length of residency groups most percentages obtained this year (2008) were a percentage point or so lower than the percentages obtained in 2007. The biggest drop in combined awareness occurred in the 6 month to a year group; this year 87% of those in the group could mention "floods" or "flash flooding" in the combined situation as compared to 95% from this strata who could do the same last year (2007). When looking at the data for unaided awareness, the biggest percentage drop occurred in the 1year to 3 year group. In 2007 67% of respondents from this group mentioned "flood" or "flash flooding" unprompted as compared to 54% who did the same this year (2008).

Awareness of Flooding Among Sub-Populations: Area of Southern Nevada



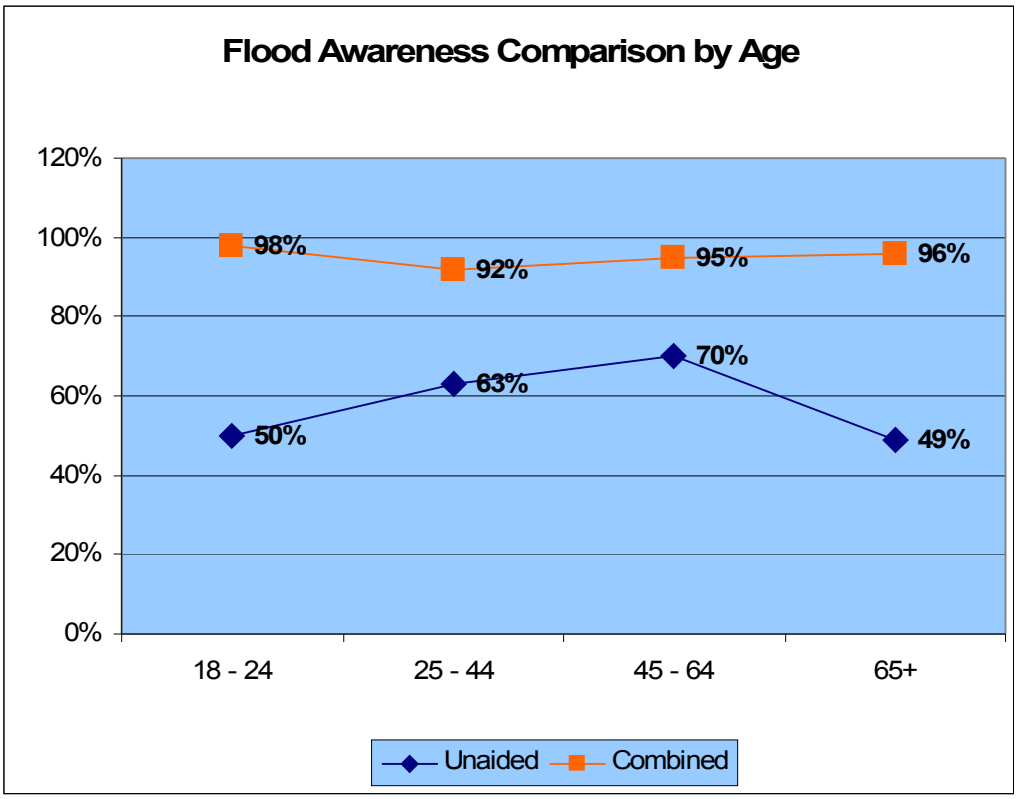
When looking at the data by the area of residency, the combined awareness is fairly consistent, the percentages remain high with combined awareness in all of the geographic areas between 94% (Southeast) and 100% (outlying areas). Ninety-five percent (95%) of the respondents living in the NW area of the Valley were able to mention "flood" or "flash flooding" in the combined manner (98%, 2007). In the Northeast 93% (96%, 2007) and in the Southwest 96% (96%, 2007) were able to mention "flood" or "flash flooding" in the combined manner.

When looking at unaided awareness the highest incidence occurs in the Southwest where 69 percent of the respondents were able to mention "flood" or "flash flooding" unaided. Among the other areas, 60 percent of respondents from the Northwest (70%, 2007), 51 percent from the Northeast (60%, 2007) and 61 percent from the Southeast (61%, 2007) were able to mention "flood" or "flash flooding" unaided.

When looking at the responses from those living in the outlying areas (N = 21) 57 percent mentioned “flood” or “flash flooding” unaided. This is up three percentage points from 2007 (54%),

To identify the area boundaries used to create the area subset for this study, a zip-code map and accompanying table are located at the back of the report. [4]

Awareness of Flooding Among Sub-Populations: Age



Two of the age stratum had 50% or fewer of its members able to mention “flood” or “flash flooding” unaided. Those were the oldest age strata (65+, 49%) and the youngest age strata (18 – 24, 50%). The youngest group, however, had the highest percentage (98%) who were able to answer “flood” or “flash flood” in the combined situation; this is probably a function of the smaller number of participants in this age strata (N = 42) than in the other age strata which all have well in excess of 100 members.

[4] Please see pages 73 (Table 14) and 75, Zip map.

The highest unaided incident was among 45 to 64 year old respondents. Seventy percent (70%) of this subset were able to mention "flood" or "flash flooding" unaided, and 95 percent were able to do so in the combined situation. In the 65+ group unaided awareness dropped six percentage points from 55% in 2007 to 49% in 2008. In 2006 unaided awareness among members of this group was 58%.

Awareness of Flooding Among Sub-Populations: Gender

There is not much difference in flood awareness based on respondent gender. Sixty percent (60%) of males and 61% of females could mention "floods" or "flash flooding" unaided. In the combined situation 94% of males and 95% of females could mention "floods" or "flash flooding"

Other Weather Related Natural Disasters Mentioned

Respondents who answered that they were aware of weather related natural disasters that can occur in Southern Nevada (N = 517) were asked unprompted to name the types of weather related disasters that they were aware of. Respondents could name more than one weather related natural disaster. The following table shows the responses that were mentioned other than "flood" or "flash flood".

Table 2: Other Types of Disasters Mentioned

Type or Disaster	Percent 2008 [5]	Percent 2007	Percent 2006
Dust / Sand Storms / High Winds	40%	55%	18%
Heavy Rains / Thunder Storms	20%	29%	16%
Heat	27%	35%	14%

[5] All percents are valid percents based on the subset that responded yes to knowing that weather related natural disasters can occur in the area. Percentages exceed 100; question allowed for multiple responses.

Fire / Lightning	14%	26%	9%
Earthquakes	11%	9%	7%
Unable to Specify	2%	2%	.5%
Other	5%	3%	N/A

The table above indicates the other weather related natural disasters that were mentioned. The list of responses generated this year does not differ from the list generated in the previous year's administrations of the survey; however the percentage of respondents that named each is not as high this year (2008) as last year.

During the 2007 administration of the survey there were several other county agencies and other organizations that had media campaigns promoting environmental awareness and the data showed an overall increase in awareness about environmental issues among residents of Southern Nevada. For example, in 2007 more than half (55%) mentioned dust, storms or high winds as compared to 40% who did the same this year. Last year there was a dust campaign that was running. The percentage of respondents who mentioned fire/lightning also rose from 9 percent in 2006 to 26 percent in 2007, but dropped to 14% this year. Last year's percentage may have been precipitated by the California wildfires that were occurring during the last week of data collection.

Included in the responses of those who provided some "other" kinds of weather related disasters that can occur in our area were drought (N = 4) pollution, and ultra violet radiation. In addition five respondents mentioned snow/freezing as a weather related occurrence. This is the first time that snow/freezing has been mentioned in this survey and this may be a function of urban sprawl and residents living closer to the mountains edges.

Flood Related Issues

All respondents were asked a series of questions to assess general knowledge of flood related issues.

The table below shows the overall frequency results. Respondents were asked to "agree", "somewhat agree" somewhat disagree", or "disagree" with each of the statements. The "agree" and "somewhat agree" responses were combined for the "% agree" score that is reported in the table below.

Table 3: Flood Related Issues

Flood Related Issue	% Agree 2008	% Agree 2007	% Agree 2006
I know about the dangers of flash flooding	98%	97%	95%
I know about the time of year flash flooding is most likely to occur in the area	88%	84%	81%
I know about safety precautions relating to flash flooding	93%	89%	87%
I know about the resources available to learn more about flash flooding	67%	63%	56%
I know ways in which flooding is being controlled in the area	79%	79%	73%
I know about the availability of flood insurance	85%	77%	74%

The data shows that most of the flood related issue questions had an increase this year. The item with the biggest increase (8 percentage points) was "I know about the availability of flood insurance" (85% - 2008, 77% - 2007, 74% - 2006). This is of particular importance, since marketing efforts during 2008 were directed towards an increase for this item.

The item that continues to have the highest response is "I know about the dangers of flash flooding". The percentage of respondents who agreed with this statement was 98% indicating that nearly all residents in Southern Nevada are aware of the dangers of flash flooding.

There was an increase in all of the flood related issues except “I know about the ways in which flooding is being controlled in the area” which remained constant at 79%. Following are the results for each of the six items in this section.

I Know About the Dangers of Flash Flooding

Ninety-eight percent (98%) of all respondents indicated that they know about the dangers of flash flooding (N = 673). When looking at this data among the sub-populations there is not much variation in the responses. When looking at the data by the area of Southern Nevada that the respondent resides in, there is not much variation in the data and all areas had at least 97 percent of respondents agreeing with the statement. In the Northeast, nearly all (99%) of the respondents indicated that they know about the dangers of flash flooding. This was the highest occurrence and was followed by 98% from the Northwest who knew the same. In the Southwest and Southeast 97 percent indicated that they know about the dangers of flash flooding. All 21 respondents from outlying areas reported knowing about the dangers of flash flooding.

When looking at the data by the length of time that the respondent has resided in Southern Nevada, there is not much variance, in all groups at least 93% indicated knowledge of the dangers of flash flooding. The highest percentage (100%) was from the newest residents (less than six months). The high percentage from this group is most likely a result of the small number in the group (N = 10). The percentages of all groups are as follows:

- Less than 6 months – 100%
- 6 months to less than a year 93%
- 1 year to less than 3 years – 97%
- 3 years to less than 6 years – 97%
- 6 to 10 years – 96%
- More than 10 years – 99%

The age variable did also not produce much variance. In all age strata a minimum of 97 percent of respondents reported that they are aware of the

dangers of flash flooding. Among respondents in the 65+ age strata 99 percent are aware of the dangers of flash flooding. This was the highest occurrence.

There was no much difference based on gender. Ninety-eight percent (98%) of both males and females agreed with the statement.

I Know About the Time of Year Flash Flooding Is Most Likely To Occur In Southern Nevada

Eighty-eight percent (88%) of all respondents reported that they know about the time that flash flooding is most likely to occur (N = 572). This is up four percentage points from last year. There is some variation in the sub-populations, when looking at the data by the length of time the respondent has resided in the area. Again due to the small number (N = 10) of respondents who have lived in the area less than 6 months, 100% indicated that they know about the time of year that flash flooding occurs. Among the other length of residency stratum, the longer that the respondent has resided in Southern Nevada the more aware they are of the time of year that flash flooding is most likely to occur. Starting with those who have lived in the area between 6 months and a year, 71% indicated knowledge of the time of year that flooding occurs, this was followed by 75% of those in the one to three year group, 82% in the three to six year group, 90% in the six to ten year group, and finally 92% of those who have lived in the area for 10 years or longer indicated that they know about the time of year that flash flooding occurs.

When looking at the data by the area that the respondent resides in, the percentage of agreement was between 82 and 88 percent with the lowest incidence in the Northeast portion of the valley and the highest incidence in the Southwest. In the other areas, 88% of respondents indicated that they knew the time of year that flash flooding was most likely to occur.

The youngest respondents were less likely to agree with this statement than older respondents. Sixty-four percent (64%) of 18 to 24 year old respondents agreed with this statement. In the other age strata between 87 and

95 percent of the respondents indicated that they know about the time of year that flash flooding is most likely to occur. The highest occurrence was the 95% of those in the 65+ strata who know about the time of year that flash flooding is most likely to occur, this is an increase of 6 percentage points from the data collected in 2007 and this year in the 65+ age strata.

Eighty-eight percent (88%) of males agreed with the statement and 87% of females agreed with the statement. These figures indicate an increase of three percentage points from the 2007 data.

I Know About Safety Precautions Relating to Flash Flooding

Ninety-three percent (93%) of all respondents knew about safety precautions relating to flash flooding (N = 614). This is up four percentage points from last year (89%, 2007). When looking at the data by the area that the respondent resides in the percentages range from a low of 90% in the Northeast to a high of 100% in the outlying areas. In the Northwest 94% of the respondents know about safety precautions relating to flash flooding while in both the Southeast and Southwest 93% indicated the same.

When looking at the data by the length of time that the respondent has lived in the Valley, all of those in the small group who have lived here less than six months indicated that they know about safety precautions relating to flash flooding. Among the other groups the highest percentage was obtained from respondents who have lived in the area for at least six years but not more than 10 years (93%) and the lowest percentage was obtained from those who have lived in the area for one to three years (81%). The percentages of all groups are as follows:

- Less than 6 months – 100%
- 6 months to less than a year 87%
- 1 year to less than 3 years – 81%
- 3 years to less than 6 years – 91%
- 6 to 10 years – 93%

- More than 10 years – 92%

When looking at the data by age, the older the respondent, the more likely they were to indicate knowledge of safety precautions relating to flash flooding. 82% of respondents in the 18 – 24 age group indicated that they know about safety precautions relating to flash flooding; this is the lowest occurrence, however it is up three percentage points from 2007 (79%, 2007). Ninety-one percent (91%) of those in the 24 – 44 age stratum indicated the same, this is also an increase of three percentage points from the 2007 data (88%, 2007) after an 11 percentage point increase from 2006 (77% 2006). In the 46 – 64 age strata 95% indicated that they know about safety precautions relating to flash flooding and in the 65+ strata 96%, indicated the same.

Ninety-three percent (93%) of both males and females indicated that they know about the safety precautions relating to flash flooding.

I Know About Resources Available to Learn More about Flash Flooding

Sixty-seven percent (67%) of all respondents know about the resources available to learn more about flash flooding (N = 409). Once again, this is the item in the series with the lowest overall agreement; however, there is an increase by four (4) percentage points from the 2007 data (63%, 2007) after a seven (7) percentage point increase in 2006 (56% 2006).

Respondents who live in the outlying areas (72%) and the Southwest (71%) were the most likely to know about the resources available to learn more about flash flooding. The lowest occurrence was in the Southeast where 64 percent of the respondents reported knowing about the resources available to learn more about flash flooding. In the Northwest and the Northeast 67 percent of respondents were aware of the same.

Forty-four percent (44%) of those who have lived in the area less than 6 months were aware of the resources available to learn more about flash flooding, this was the lowest incidence based on length of time in the area. This is, however, an increase of 20 percentage points from last years data (27% 2007)

following a 7 percentage point increase from 2006 (20%, 2006). Respondents that have lived in the area the longest (10+yers) were the most likely (72%) to know about the resources available to learn more about flash flooding. The responses from the groups in this subset are as follows:

- Less than 6 months – 44% (+27 percentage points)
- 6 months to less than a year - 36% (-14 percentage points gained in 2006)
- 1 year to less than 3 years – 58% (+ 5 percentage points)
- 3 years to less than 6 years – 62% (+4 percentage points)
- 6 years to 10 years – 69% (+ 2 Percentage points, after 26 points gained in 2006)
- More than 10 years – 72% (+3 percentage points)

There was variation in responses based on age; the older the respondent, the more likely they were to know about resources available to learn about flash flooding. Among those in the youngest age strata (18 -24) only 50% know about the resources available to learn about flash flooding. In the oldest age strata (65+) 72% know about the available resources as do 70% in the 46 – 64 age strata and 60% in the 25 – 44 age strata.

Sixty-eight percent (61%, 2007) of males know about the resources available to learn more about flash flooding, while 66% of females know the same (65%, 2007).

I Know About Ways Flash Flooding Is Being Controlled In the Area

Seventy-nine percent (79%) of all respondents (79%, 2007) know about ways in which flooding is being controlled in the area (N = 501). There were some differences among the sub-groups. For the most part, the longer that the respondent has lived in Southern Nevada, the more knowledgeable he/she is about the ways that flooding is being controlled. For example, only 40 percent of residents who have lived in Southern Nevada for 6 months to less than a year know about the ways that floods are controlled in the area, this percentage more

than doubles (86%) for residents who have lived here 10 years or longer. The responses from the age strata are as follows:

- Less than 6 months – 75% (38%, 2007)
- 6 months to less than 1 year – 40% (70%, 2007)
- 1 year to less then 3 years – 61% (65%, 2007)
- 3 years to less than 6 years – 75% (69%, 2007)
- 6 years to 10 years – 79% (74%, 2007)
- Longer than 10 years – 86% (83%, 2007)

There is a statistically significant relationship between age and knowledge of the ways that flooding is controlled in the area.[6] When looking at the data by age, the youngest respondents (18 – 24) were the least likely (33%) to be aware of the ways that flooding is controlled in the area while the oldest respondents (65+) were the most likely to be aware of the same (88%). Eighty-percent (83%) of the respondents between the ages of 46 and 64 and 75% of those between the ages of 25 and 44 indicated awareness of the ways in which flooding is controlled in the area. The percentage of those in the youngest age strata dropped from 66% in 2007 to 33% in 2008. Again, this could be a result of the relatively few (N = 36) participants in this group as compared to the other age groups who all have well in excess of a hundred participants

Respondents in the Northeast were the least likely (66%) to know about the ways that flooding is controlled in the area. During the last two years of administering this survey respondents in the Northeast were the least likely to know the ways that flooding is controlled. The responses in the other geographic areas were very similar, 84% aware in the Southwest, and 81% aware in the Northwest and 80% in the Southeast.

Seventy-seven percent (77%) of both males and females know about the ways that flash flooding is controlled in the area.

[6] Pearson Chi-Square significant at .000

I Know About the Availability of Flood Insurance

Eighty-five percent (85%) of respondents indicated that they know about the availability of flood insurance (N = 540). This is up 8 percentage points from last year (74%). This is of particular importance, since marketing efforts during 2008 were directed towards an increase for this item.

Respondents in the Southwest areas were the most likely (91%) to know about the availability of flood insurance. In other areas, 88% of respondents in the Northwest, 83% of the respondents from the Southeast, and 82% in the Northeast were aware of the same. Awareness of the availability of flood insurance rose 13 percentage points in the Northeast (69%, 2007, 82% 2008).

Respondents who have lived here less than 6 months were the least likely (70%) to know about the availability of flood insurance; however this is a substantial increase from the 36% in this length of residency strata who reported the same in 2007. The highest incidence was 87% from those who have lived in the area the longest. In all of the other area of residence strata the percentage of those who know about the availability of flood insurance is between 80 and 84 percent. The responses from the area strata are as follows:

- Less than 6 months – 70% (36%, 2007)
- 6 months to less than 1 year – 80%
- 1 year to less then 3 years – 84%
- 3 years to less than 6 years – 81%
- 6 years to 10 years – 84%
- Longer than 10 years – 87% (82%, 2007)

The youngest respondents (18 – 24) were the least likely to know about the availability of flood insurance (53%) however there is a substantial decrease in the percentage of 18 – 24 year olds who know about the availability of flood insurance which dropped from 71% in 2007 much closer to the 2006 percentage of 50% Eighty-nine percent (89%) of respondents who are between 45 and 64 know about the availability of flood insurance. This was the highest occurrence. Eighty-five percent (85%) of the respondents over both age 65 and

between the ages of 25 and 44 also indicated knowing about the availability of flood insurance.

Eighty-two percent (82%) of males and 87 percent of females know about the availability of flood insurance.

Sources for Flood Information

In the next section of the survey respondents were asked to respond "yes" or "no" to a list that was read to them of possible sources where they learned about flash flooding. The following table presents the data in rank order.

Table 4: Rank order of sources for obtaining flood information

Rank	Source	% 2008	% 2007	% 2006
1	Television	90%	90%	87%
2	Newspaper	58%	60%	60%
3	Radio	57%	60%	56%
4	Friends / Relatives	56%	54%	59%
5	Billboards	53%	51%	46%
6	Brochure	26%	21%	24%
7	CCRFCD Website	20%	20%	19%
8	Welcome Home Magazine	5%	6%	8%

The rank order of items is the same this year (2008) as last year. As in past years, television (90%) is the main source where respondents learn about flash flooding. Newspapers (58%) also continues to be in the top three ways that respondents are getting flood related information, followed by 57% who also indicated that they obtain information about floods from the radio. The fourth ranked source for obtaining flood related information was from friends and relatives (56%) and this was followed by billboards (53%) which showed a slight increase from the 2007 data (51%). In addition the percentage of those that indicated that *Welcome Home Magazine* was a source for flood information

decreased slightly from 6% to 5%. Twenty percent (20%) indicated that they had learned about flash flooding from the CCRFCD website, the same percentage indicated the same in 2007. The source of flood related information with the largest increase of percentage points from 2007 to 2008 was brochures which increased 5 percentage points to 26% percent from last years 21%. It still, however, remained sixth out of eight in order of all sources that respondents use to obtain flood related information.

When looking at each of the information sources the following can be said about the demographic profile of the respondents most likely to obtain information from that source.[7]

a. Brochure: female (28%), between the ages of 45 and 64 (28%) who has lived Southern Nevada ten years or longer (29%) and currently resides in the Northwest or Southeast (28%) area

b. Billboard: female (54%) between the ages of 45 and 64 (59%) who has lived in Southern Nevada ten years or longer (59%) and currently resides in the Southwest (58%) area. There is a statistically significant relationship[8] between the age of the respondent and using billboards as a source for obtaining flood information. Respondents in the oldest age strata (65 +) are the least likely by far (38%) to learn about flooding from billboards. This may be a function of older drivers needing to pay more attention to the actual mechanics of driving.

c. Television: female (91%) who are 65 years of age or older (94% or between the ages of 18 and 24 (93%) who have lived in Southern Nevada 6 – 10 years (92%). Area did not have a bearing on television as a source for obtaining flood information. In all areas except the Northwest 91% indicated that they obtain information about flooding from television; in the Northwest, that percentage was 88%.

[7] Due to the small number of responses in outlying areas, they were omitted from the profile. The percentage reported is the highest within each subset not the entire sample.
[8] Pearson Chi-Square .000

d. Radio: male (59%) between the ages of 45 and 64 (62%) who has lived in Southern Nevada ten years or longer (64%) and currently resides in the Northeast or Northwest (61%) area.

e. Newspaper: female (60%) aged 65 or older (78%) who has lived in Southern Nevada 10 years or longer (65%) and currently resides in the Southwest (63%) area. There is a statistically significant relationship[9] between both the age of the respondent the length of time they have resided in the area and the use of newspapers as a source for obtaining flood information.

f. Welcome Home Magazine: female (7%) between the ages of 45 and 64 (6%) who has lived in Southern Nevada for less than six months (30%) and currently resides in the Southeast (7%) area.

g. CCRFCD Website: male (22%) between the ages of 18 and 24 (24%) who has lived in Southern Nevada for ten years or longer (23%) and currently resides in the Southwest (30%) area.

h. Friends and/or relatives: female (60%) between the ages of 18 and 24 (88%) who has lived in Southern Nevada less than six months (70%) and currently resides in the Southwest (63%) area. . There is a statistically significant relationship[10] between the age of the respondent and using billboards as a source for obtaining flood information.[11]

School Age Children

In order to assess the effectives of flood awareness information aimed at school aged children, additional questions were asked of respondents who indicated that they had a child(ren) in elementary school. Eighteen percent (18%)

[9] Pearson Chi-Square .000 for both variables.
[10] Pearson Chi-Square .000
[11] Pearson Chi-Square .000

of the respondents indicated that they have a child (ren) in elementary school (N = 123). This sample is large enough to be statistically relevant. These respondents were asked two follow-up questions: *did your children bring information about flood awareness home from school in the past year*, and *have your children talked to you about flood safety that he/she learned at school.*

Twenty-three percent (14%) of those with elementary-aged child(ren) indicated that their children did bring materials about flood awareness home in the past year (N = 17). This is a decrease of 9 percentage points from last year (23%, 2007) and the lowest percentage since data on this question has been collected (18%, 2006). Twelve percent (12%) indicated that their child(ren) talked about flood safety that was learned at school. This is also a decrease from last year's data (19%, 2007) and also the lowest percentage obtained for this question since this data has been collected (21%, 2007).

Hundred Year Flood Zone

Do you live in a 100 year flood zone?

Eight percent (8%) of respondents reported that they live in a flood zone. This is similar to the data collected in 2007, when 10% indicated that they live in a flood zone. Forty-three percent (43%) reported that they do not live in a hundred year flood zone, and 49% are not sure whether or not they live in a flood zone.

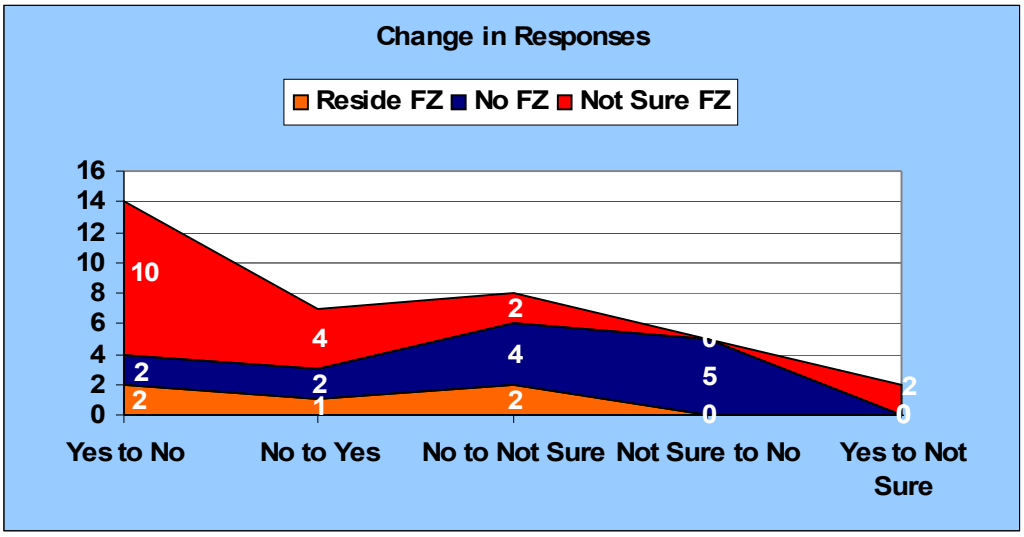
Do you have flood insurance?

Since flood insurance is available to everyone, not just those who live in a flood zone, this question was asked of all respondents. Twelve percent (N = 66) of all respondents reported that they have flood insurance. This is similar to 10% who reported the same in 2007. Of the respondents who reported that they live in a flood zone and are therefore required to purchase flood insurance, 17 respondents reported that they have flood insurance. This represents 37% of

those that live in a flood zone and are required to have flood insurance that actually have it. In 2007 only 14% of those who were required to have flood insurance because they live in a flood zone had it, an increase of 23 percentage points.

Flood insurance is a separate policy from homeowners insurance to cover flood damage from a weather related event. Do you have such a policy?

This question was added in 2007 to try to determine if respondents are truly cognizant of what flood insurance is. All respondents were read the above definition of flood insurance. After being read the definition of flood insurance 62 respondents (11%) indicated that they have flood insurance. This is a decrease of a percent. The graph below shows the changes that respondents made after being read the definition of flood insurance.



Thirty-six (36) respondents changed their answer after hearing a definition of flood insurance. Fourteen (14) of those who responded "yes" to the question "do you have flood insurance" changed their responses to "no" or "not sure" after hearing the definition. Twenty-two (22) of those who responded "no" to the first question changed their responses to "yes" or "not sure" after hearing the definition of flood insurance. Only 5 of these were from the subset who live in a flood zone. One of these changed from a "yes" to a "don't know" response and one from a "yes" to "no". Two from this subset changed their responses from "no"

to “don’t know” and one from “no” to “yes”. Among the responses of those who do not live in a flood zone. Most of the response changes came from those who were not sure whether or not they live in a flood zone who changed from “yes” to “no” after hearing a definition of flood insurance (N = 10). This was followed by five (5) respondents who don’t live in a flood zone who initially reported that they were not sure whether or not they have flood insurance to “no” don’t have flood insurance after hearing it defined.

Flood Insurance Issues

This series of questions was asked of all respondents. In addition to asking whether the respondent knew if flood insurance is available to everyone, respondents were also asked if flood insurance was only available to those living in a flood zone, whether flood insurance costs the same whether or not the residence is in a flood zone, and whether there was a requirement to buy flood insurance if the residence is in a flood zone. Two items were dropped from the survey. They are, flood insurance will only cover the structure of a residence and flood insurance will cover the contents of a residence. In addition is was determined that the questions be asked in random order and questions were rotated.

There were some dramatic changes in the responses this year. First, the structure of the questions was changed. In the past, the items were presented as statements that the respondent could agree or disagree with. They had a four point agree disagree scale (agree, somewhat agree, somewhat disagree, and disagree). Results were tabulated as a positive (agree, somewhat agree) and negative (somewhat disagree, disagree) scores which were combined with the positive results representing the true responses and the negative results representing the false answers.

This year it was decided to present the items with a true false response. The results were so uncharacteristically different from the results obtained in the previous decade of data collection, even data collected in other questions of the

survey that it was determined to do a formal retest of the procedures and methods employed. Surveys were conducted with 90 additional respondents. All elements of the data collection process and the methodology remained the same except that half of the respondents (N = 45) were asked to agree or disagree with the statements and the other half were asked whether the statements were true or false. The rotation was eliminated because it was suspected that this might also be a contributing factor to the difference in the data. The results obtained with the 90 test subjects were much more in line with the data collected in previous years and also with the data obtained in the rest of the survey. While we expect to see some changes in the data from year to year, to see single items fluctuate so dramatically was indicative of something amiss methodologically. The non-rotated questions produced results much more consistent with data collected in the past and in other questions of the survey and in fact showed an increase in knowledge for most of the flood insurance items. The following table shows the results obtained with the additional respondents where no rotation of questions occurred as compared to the responses of those who answered the rotated questions.

Table 5: Flood insurance issues test

Question	Agree/Disagree	True/False	Rotation
Flood insurance is available to everyone	**76%**	**76%**	**23%**
Flood insurance is only available to those who live in a flood zone	**78%**	**80%**	**50%**
The cost of flood insurance is the same whether or not you live in a flood zone	**64%**	**67%**	**54%**
If you live in a flood zone you must buy flood insurance	**38%**	**27%**	**23%**

Item 1, "*flood insurance is available to everyone"* has traditionally been the item with the most correct answers. In the past two years 60% of the respondents correctly agreed that flood insurance is available to everyone. This year, when the questions were rotated only 23% responded correctly by answering true. When the rotation was removed, 76% of those from the

respondents who agreed/disagreed with the item and those who answered true/false correctly knew that flood insurance was available to everyone. These figures actually show an increase in knowledge that flood insurance is available to everyone from the data collected in 2007 (60%, 2007, 76% 2008).

Item 2, "*Flood insurance is only available to those who live in a flood zone"* When looking at the answers from rotation questions there was a decline by 8 percentage points in the number of respondents who are aware that flood insurance is available to everybody not just those who live in a flood zone, (50% 2008, 58% 2007). However, when you look at the data from the additional respondents the percentages rose to 78% for those who responded to the agree/disagree questions and 80% for those who responded to the true/false questions, thus indicating an overall increase in the knowledge that flood insurance is available to all, not just those who live in a flood zone.

Item 3, *"flood insurance costs the same regardless of whether or not the residence is in a flood zone"* was the one item that produced the highest correct results in the rotation questions. Fifty-four percent correctly answered this question from this group (2007- 51% to 2008- 54%). The percentage who answered correctly was even higher among those who answered the agree/disagree questions (64%) and the true/false questions (67%).

The last item in this series *("if you live in a flood zone you must buy flood insurance")* produced results similar to the first item (*flood insurance is available for everyone),* 23% of those who answered the rotated questions responded correctly. When re-asked again without the rotation 38% of those who were asked the agree/disagree questions responded correctly as did 27% of those who answered the true/false questions.

Experience with Flooded Roads

For the next part of the survey, respondents were read a definition of a flooded street *(a street or road where water covers the street from curb to curb, and you can't see the pavement)* and then asked if either as a driver or as a passenger of a vehicle they had ever encounter a flooded street while on a road.

Seventy-six percent (N = 534) of respondents reported that they had encountered a flooded street. This percentage is up somewhat from the percentage that said the same in 2007 (73%). Respondents who had encountered a flooded street were read four statements and asked which one best described their response to encountering a flooded street.

(1) Turned back and took an alternate route
(2) Waited for the water to go down and then drove through it
(3) Drove through it and made it
(4) Drove through it and got stuck

Statements 1 and 2 are considered good or appropriate choices, while Statements 3 and 4 are considered poor or inappropriate choices.

Respondents who answered that they drove through it and made it or drove through it and got stuck were asked to define why they made that choice.

Good or Appropriate Choices

Sixty-seven percent (67%) of respondents made a good or appropriate choice when encountering a flooded road in Clark County. This is the same as the 67% who did the same in 2007 and similar to the 68% who did the same in 2006 and. By far the largest percentage of respondents who made a good or appropriate choice (62%) “turned back and took an alternate route” (N = 317). Seven percent (7%) “waited for the water to go down then drove through it” (N = 38).

When looking at the data by how long a respondent has lived in the area and deciding to take an alternate route when encountering a flooded road or street, the highest occurrence is the 63% of those who have lived in the area for ten years or longer. Among the other length of residency groups 54% of those who have lived here six to ten years turned around and took an alternate route when encountering a flooded road or street, as did 57% of those who have been

here between three and six years, and 52% who have been in the area between one and three years.

There were some differences in who decided to take an alternate route when encountering a flooded street by age. The highest incidence was the 66% of those in the 65+ age stratum (N = 82) who turned around and took an alternate route when encountering a flooded road. The lowest incidence was 52% of 18 - 24 year olds who did the same. In the other age strata, 62% of the 25 – 44 year olds and 56% of those between the ages of 45 - 64 did the same.

When looking at the data by the area of the valley that the respondent resides in the highest incidence is the 65% (N = 56) in the Southwest area who turned around and took an alternate route; the lowest was 51% (N = 38) in the Northeast who did the same, as did 61% (N = 86) in the Northwest and 58% (N = 118) in the Southwest. Females (61%) are somewhat more likely than males (57%) to turn around and take an alternate route when encountering a flooded street or road.

Among the 38 respondents who indicated that they would wait for the water to go down then drive through it, 16 were from the Southeast part of the Valley, 20 have lived in the area longer than ten years, 27 are female and 15 are between the ages of 45 and 64. These are the highest occurrences from each of the stratum.

Poor or Inappropriate Choices

Thirty-three percent (30% 2007) of respondents made a poor or inappropriate choice when encountering a flooded street or road in Clark County. From this group of 176 respondents, 161 drove through it and made it (91%) while 15 individuals drove through it and got stuck (9%). Those that drove through it and got stuck were most likely to be female (N = 9, 60%), at least 25 but not older than 64 years of age (N = 12, 80%) live in the Northeast (N = 6, 40%), and have lived in the area 10 years or longer (N = 10, 67%)

The 161 individuals who made a poor or inappropriate choice when encountering a flooded street were asked why. The most often cited reason why a poor choice was made was “didn’t think it was unsafe to do so” (52%, N = 91).

This is down 14 percentage points from those that didn't think it was unsafe to do so in 2007 (66%). Eight percent (N = 14) were "in a hurry" (9%, 2007), 8% "didn't know any better" (5%, 2007), and 3% (N = 5) thought "it would be fun" (7% 2007).

When looking at the answers of the 91 respondents that indicated that they didn't know it was unsafe to drive through flood water, 49% (N = 42) were between the ages of 45 -64. They have lived in the area longer than 10 years (51%, N = 51). Fifty-two percent were female and 48% were male.

Five respondents answered that driving through a flooded street or road would be fun to do. These individuals were female (N = 4), live in the Southeast (N = 3), have lived here longer than 10 years (N = 3), and are between the ages of 18 -24 (N = 2) or 25 – 44 (N = 2).

Streets "are" or "are not" a part of the flood control system.

The data shows that the awareness that "streets are a part of the flood control system" is down; the percentages obtained this year are the lowest in the past four years. This year 57% of respondents were aware that this is true as compared to 65% in 2007, 63% in 2006 and 62% in 2005 who were aware of the same. Twenty-three percent (23%) of respondents did not know that streets are a part of the flood control system, while 20% (N = 141) responded that they "didn't know". The decrease in awareness is not attributed to incorrect responses but rather to individuals who are simply not sure of the correct response. There is a significant relationship[12] between gender and not being able to answer this question. Among the 141 respondents who were unable to provide a response 105 are female (75%). Further, age is also a significant factor in the inability to answer this question.[13] Twenty-nine percent (N = 50) are in the oldest age stratum (65+).

There were some differences in responses among the sub-groups. Even though females were more likely than males to not provide a response, they were also more likely than males to provide the correct response. Among the group of

[12] Pearson Chi-Square .000.
[13] Pearson Chi – Square .005.

females who answered the survey, 60% knew that streets are a part of the flood control system, this compared to 40% of males who were aware of the same.

Respondents in the 45 – 64 age group were the most aware that streets are a part of the flood control system (62%), while those in the oldest age group (65+) and those between the ages of 25 - 44 were the least likely (54%) to know the same. Sixty percent of those in the 18 – 24 age group responded correctly. There is some variance in the data based on the length of time that the respondent has lived in the area, but it is difficult to attribute the affect of length of time one has lived in the area has on the knowledge that streets are a part of the flood control system because of the way that the data is scattered. Respondents who have lived here for 6 to 10 years or six 6 months to less than a year (60%) are the most aware that streets are a part of the flood control system, respondents who have lived here between less than 6 months were the least aware (50%). In addition, 54% of those who have been here one to three years and 56% of those who have been here between three and six years are aware that streets are a part of the flood control system.

"Some" or "All" of the urban runoff that travels through the flood control system drains into Lake Mead.

The percentage who correctly answered that "all" of the urban runoff that travels through the flood control system drains into Lake Mead has remained fairly constant since this question was added to the annual assessment in 2006. This year 36% responded correctly (37% 2007, 38% 2006). Forty-two percent responded incorrectly that "some" of the runoff drains into Lake Mead", this is down from 46% who responded the same in 2007. Since the percentage of respondents who understand that all of the urban runoff that travels through the flood control system drains into Lake Mead has remained fairly constant at slightly over a third, this may be an area that the CCDRFD may want to develop some materials to increase overall understanding.

Within the age groups, 43% of youngest respondents (18-24) correctly answered this question; this was the highest occurrence as it was last year when

50% of the 18 – 24 year olds answered that “all” of the urban runoff that travels through the flood control system drains into Lake Mead. In the other age groups 38% of those aged 65 and older, 41% between the ages of 45 - 64 and 32% between the ages of 25 – 45 answered that “all” of the urban runoff drains into Lake Mead.

When looking at the data by how long the respondent has lived in the area 40% of those who have lived in the area for at least six years correctly answered that “all” of the urban runoff travels to Lake Mead. The lowest incidence was the 23% who have lived here one year to less than three years. In the three to six year stratum 31% correctly responded as did 36% of those who have lived in the area for six months to a year.

Males (43%) were more likely than females (33%) to respond correctly.

The stormwater and urban runoff that travels through the flood control system is “treated” “untreated”.

Forty-six percent of respondents (N = 319) correctly responded that the stormwater and urban runoff that travels through the flood control system is untreated. This is similar to the 49% who responded correctly in 2007. Males (55%) were significantly[14] more likely to know the answer to this than females (40%). When looking at the data by age, the older the respondent, the more likely he/she is to know that the urban runoff and stormwater that travels through the flood control system is untreated. In the youngest age strata (18 – 24) 36% responded correctly, followed by 40% in the 25 – 44 strata. In the upper two age stratum half (50%) of the respondents responded correctly.

Twenty-seven percent (N = 186) were unable to decide whether or not the runoff and stormwater is treated or untreated.

[14] Pearson Chi-Square .000

Have you changed any behaviors to help protect the environment and Lake Mead?

This question is new this year and replaces an old version which *read "As a result of knowing that urban runoff and rainwater are NOT treated, have you changed any behaviors that would help protect the environment".* The old version was asked only of those who correctly knew that urban runoff is not treated. The new question which reads *"have you changed any behaviors to help protect the environment and Lake Mead"* was asked of all respondents. Respondents who answered affirmatively were asked what behaviors they had changed. The follow-up question was asked to 390 respondents (56%) who indicated that they had made a behavior change to help protect the environment and Lake Mead. The question was asked open ended and has been categorized and ranked in the table that follows. Due to the different population that is included in this year's administration, the data cannot be compared to previous years and should be considered baseline data. The data is quite diverse and provides good insight in the area resident's insight and response to our environment.

Table 6: Behavior changes to protect the environment and Lake Mead

Rank	Behavior Change	Frequency	Percent
1	Water Conservation	108	28%
2	Proper disposal of general waste	104	27%
3	Proper disposal of oil	85	22%
4	Proper disposal of chemicals	77	20%
5	Reuse bags	50	13%
6	Other	46	12%
7	Use a commercial car wash	44	11%
8	Desert landscaping	40	10%
8	Proper disposal of pet waste	40	10%
10	Use of green products	35	9%
11	General recycling	23	6%

12	Use of organic fertilizers	17	5%
13	Reporting of clogged storm drains	10	3%
13	Unable to specify	10	3%
15	Composting	6	2%

The number one thing that people are doing to help the environment and Lake Mead is some form of water conservation (28%, N = 108). This was followed by 27% (N = 104) who indicated that they are properly disposing of general waste. In past administrations of this survey this was the number one behavioral change mentioned. Respondents also indicated that they are disposing of oil (22%) and chemicals (20%) properly. Ranked fifth was the reuse of bags (13%). This was followed by 12% who provided some other uncategorized response that included

"I don't flush prescriptions down the toilet" (N = 3)

"helped clean up the neighborhood"

"volunteered to help clean up Lake Mead"

"stopped driving my car"

"changed to energy efficient light bulbs" (N = 3)

"sold our boat"

Ranked seventh (11%) was the use of a commercial car wash rather than washing vehicles in the driveway. This was followed by 10% who have desert landscaping and 10% who properly dispose of pet waste. Desert landscaping is also a response that was not obtained in previous administrations of this survey as is the use of green products (9%) and general recycling (6%). The use of organic fertilizers was ranked 12 (5%), followed by the reporting of clogged storm drains (3%). An additional 3% indicated that they had made behavior changes to help the environment but were unable to specify those behaviors. Lastly 2% (N =6) reported that they are composting to help the environment; this response had also not shown up in previous surveys.

If you knew what to do, would you be willing to change your behavior if you knew it would improve water quality?

All participants were asked this question. Ninety-five percent (N = 666) answered yes, they would be willing to change a behavior if they know it would improve water quality. This is the highest percentage obtained for this item since this question was added to the survey in 2006 (89% - 2007, 90% - 2006). There seems to be a genuine willingness to make behavior changes to help the environment.

Females (96%) are more willing to make a change than males (93%). The data also shows that the younger the respondent, the more willing they are to make a behavior change to improve water quality. All (100%) of those in the youngest age group (18 – 24) are willing to make a behavior change to help improve water quality. This percentage drops to 96% for the 25 – 45 age group, 95% for the 46 – 64 age group and finally to 92% in the oldest age group (65+). Only 3% (N = 18) are not willing to make a behavior change to improve water quality and an additional 3% are not sure whether or not they would make a behavior change to improve water quality.

Would you like to know more about how to keep the environment clean?

Sixty-nine percent (N = 486) of respondents indicated that they would like to know more about how to keep the environment clean; this is up from the 64% who reported the same in 2007. There is a statistically significant relationship between age and the desire to know more about how to keep the environment clean.[15] Less than half (49%) of those in the oldest age cohort (65+) want to know more about how to keep the environment clean compared to approximately 74% in all of the other age groups who want the same. Gender and the desire for more information on how to keep the environment clean is also statistically significant.[16] Among female respondents, 72% indicated that they want more

[15] Pearson Chi-Square .000.
[16] Pearson Chi-Square .002.

information, this compared to 60% of males who want more information on how to keep the environment clean.

Where would you like to go to get information on how to keep the environment clean?

This question was asked open ended to respondents who indicated that they would like more information on how to keep the environment clean (N = 438). The table below shows the most often given responses to this open ended question.

Table 7: Preferred sources for environmental information

Rank	Source of Information	Frequency	Percent (%)
1	Internet/Website/Email	237	54%
2	Mail	95	24%
3	TV/Radio	60	15%
4	Brochures/Flyers	34	7%
4	Newspaper/Magazines	34	7%
6	Library	24	5%
7	Stores	14	3%
8	Government source	10	2%
9	Don't Know	9	2%

The most mentioned source for receiving environmental information was the Internet mentioned by 237 respondents (55%). This was also mentioned first in 2007, however, there has been an increase of 12 percentage points from the 2007 data (43% - 2007). This was followed by 24% (N = 107) who prefer to receive information by mail. Mail rose from the number three rank to second this year and obtaining information via television or the radio (15%) dropped from the second rank to the third rank. Seven percent (7%) mentioned brochures or flyers and an additional 7% indicated that they would prefer to receive information on how to keep the environment clean via newspapers or magazines. Five percent mentioned that they would prefer to get environmental information from the library. There were enough responses this year (N = 22) to categorize and rank it; in previous years only one or two individuals mentioned the library as a preferred source and 3% want to receive environmental information at stores. All

of those that want to receive environmental information from stores are from the Spanish subset. Finally 2% mentioned some kind of government source including the CCRFCD, the County, the water district, and the post office; an additional 2% were not sure of how they prefer to obtain environmental information. Responses in the other category included: “the springs preserve or local museums”, utility bill inserts (N = 3) and “schools” (N = 6).

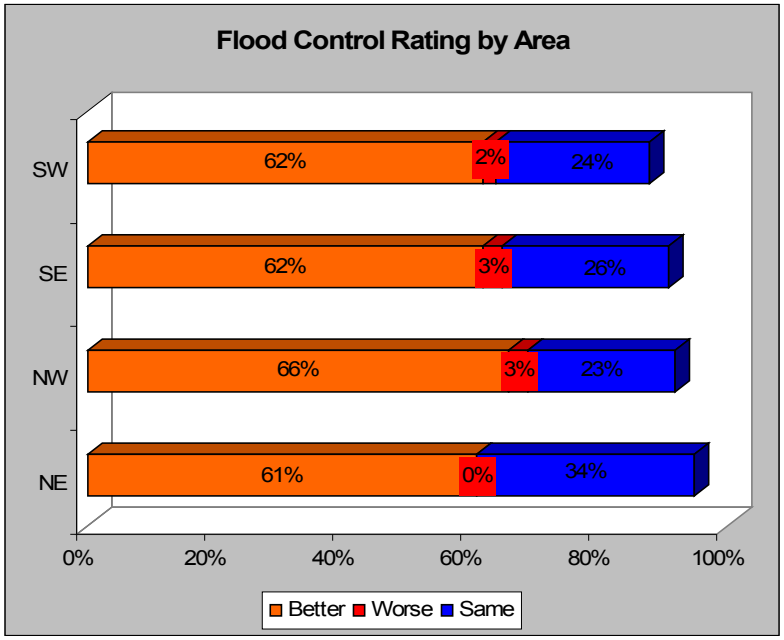
Since you became a resident of Southern Nevada, do you think the way flood control is being handled in our valley has gotten better, gotten worse, or stayed about the same?

Sixty-three percent (N = 410) of respondents feel that since the time that they have become residents of Southern Nevada the way that flood control is handled has gotten better. Twenty-six percent (N = 167) think that it has stayed about the same and 9% (N = 58) are not sure. Only 2% (N = 14) of respondents think that the way flood control is handled has got worse. These figures are similar to last year’s figures.

When looking at the data by gender 62% of females and 66% of males indicated that flood control has gotten better since moving to Southern Nevada.

Flood Control Ratings

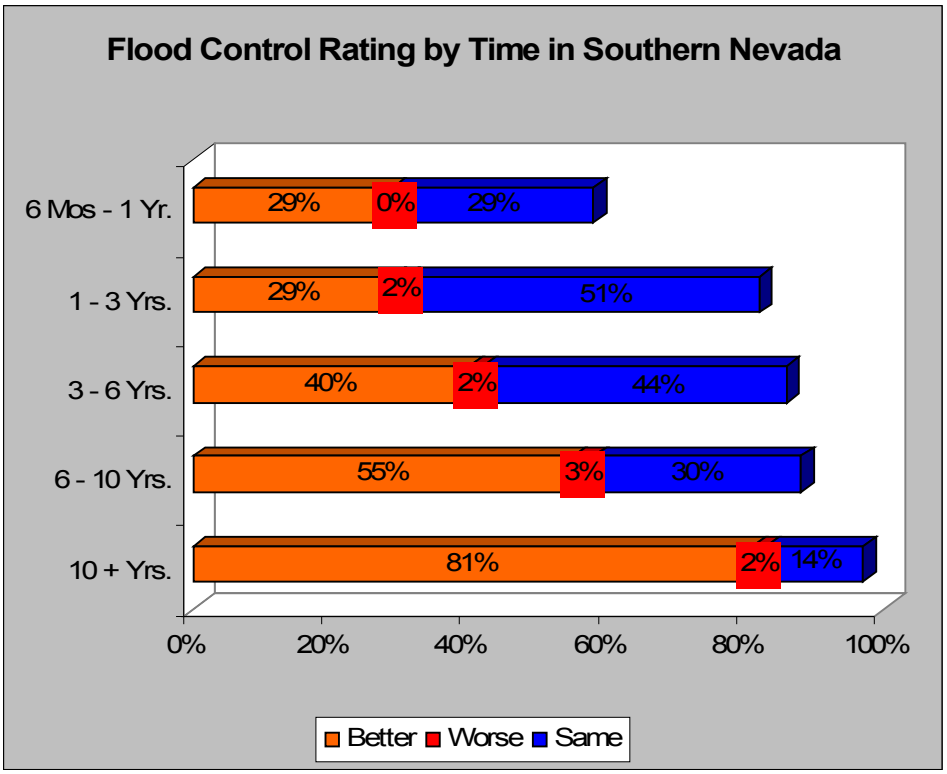
Flood Control Rating by Area



The graph[17] above depicts the flood control rating by area. As the graph shows, there is not much variance in the answers from respondents who live in the Southeast, Southwest, and Northeast. Between 61 and 63 percent of all residents in these areas have indicated that flood control has gotten better since moving here. Respondents in the Northwest are the least likely (66%) to agree that the way that floods are being controlled has gotten better. Only a very small percentage in any of the areas has indicated that flood control has gotten worse with the highest occurrences in both the Northwest (3%) and the Southeast (3%). In the Southwest 2% think that flood control has gotten worse, while in the Northeast none of the respondents thought that flood control had gotten worse. Respondent from the Northeast were the most likely to think that flood control has stayed about the same (34%), in the other areas approximately a quarter of the respondents reported that flood control has stayed the same.

[17] The total percentage in this graph and the following two graphs do not add up to 100%, the missing percentages represent the "not sure" responses.

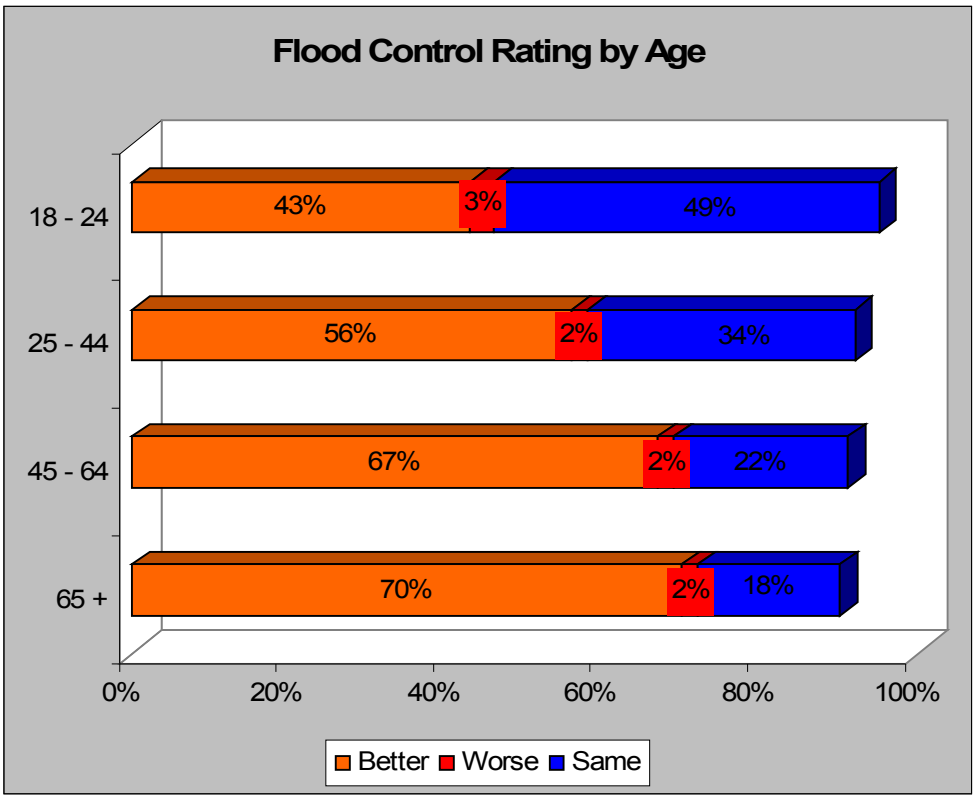
Flood Control Rating by Length of Time Resided in Southern Nevada



The graph[18] above shows the flood control rating by the length of time that the respondent has resided in Southern Nevada. As is indicated above, those respondents who have lived here 10 years or longer were the most likely (81%) to think that the way that flood control is being handled has gotten better. Fifty-five percent of those who have lived in the area for six to ten years think that the way flood control is being handled has gotten better, the percentage for those who think the same in the three to six year stratum is 40%, and for all respondents who have lived here for at least six months but not longer than three years the percentage who think flood control has gotten better is 29%. Only 3% or fewer of respondents in any of the groups indicated that flood control has gotten worse since moving here.

[18] Percentages do not add up to 100%, "not sure" responses are not included on the graph.

Flood Control Rating by Age



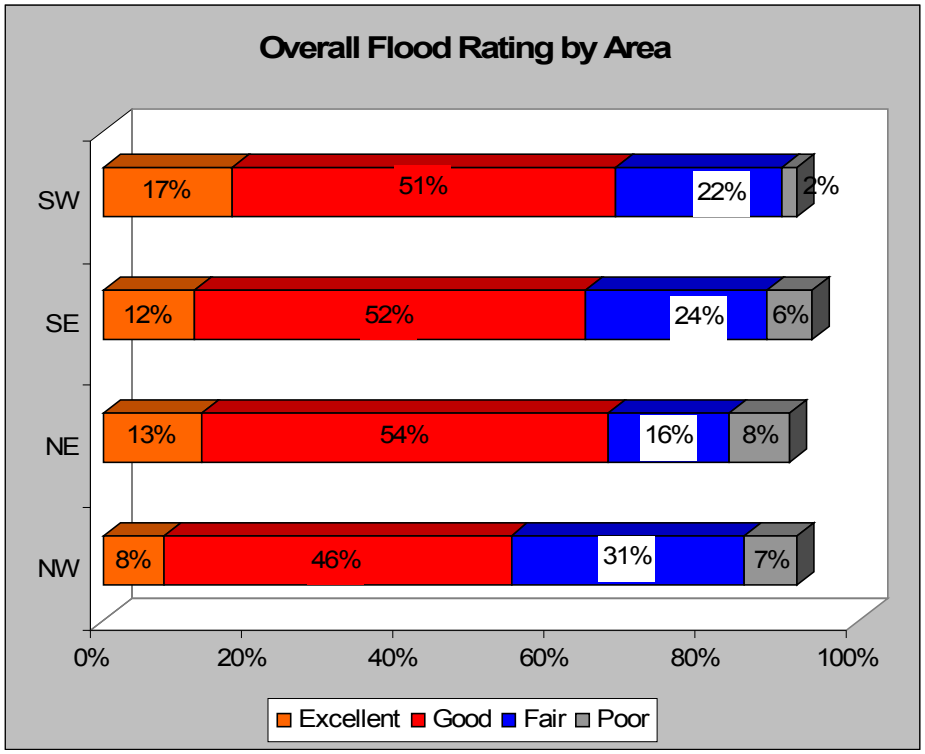
Respondents in the 65 + age group were the most likely (70%) to think that flood control has gotten better since living here. This was the highest incidence among any of the age strata. In the 18 – 24 age strata, 43% thought that flood control has gotten better, this was the lowest incidence. In the other groups 67% of those aged 45 - 64 and 56% of those between the ages of 25 and 44 thought that flood control has gotten better. Again, only a very small percentage indicated flood control had gotten worse. The youngest respondents (18 – 24) were the most likely (49%) to think that flood control has stayed about the same since becoming a resident of southern Nevada. While those in the oldest age stratum (65+) were the least likely to think that the way flooding is being controlled has stayed the same (18%).

Overall, how would you rate the way flood control is being handled in Southern Nevada?

The survey results show overall that 64% of respondents positively rate the way that flood control is being handled in Southern Nevada; 12% gave flood control an "excellent" rating, while 52% gave flood control a "good" rating. The 64% overall rating is similar to last years overall rating (63%). Twenty-two percent (22%) rated flood control "fair", while 6% gave flood control a "poor" rating. Eight percent (8%) of the respondents did not know how to rate flood control overall.

There is no discernable differences in the responses of males and females regarding their overall rating of flood control in Southern Nevada.

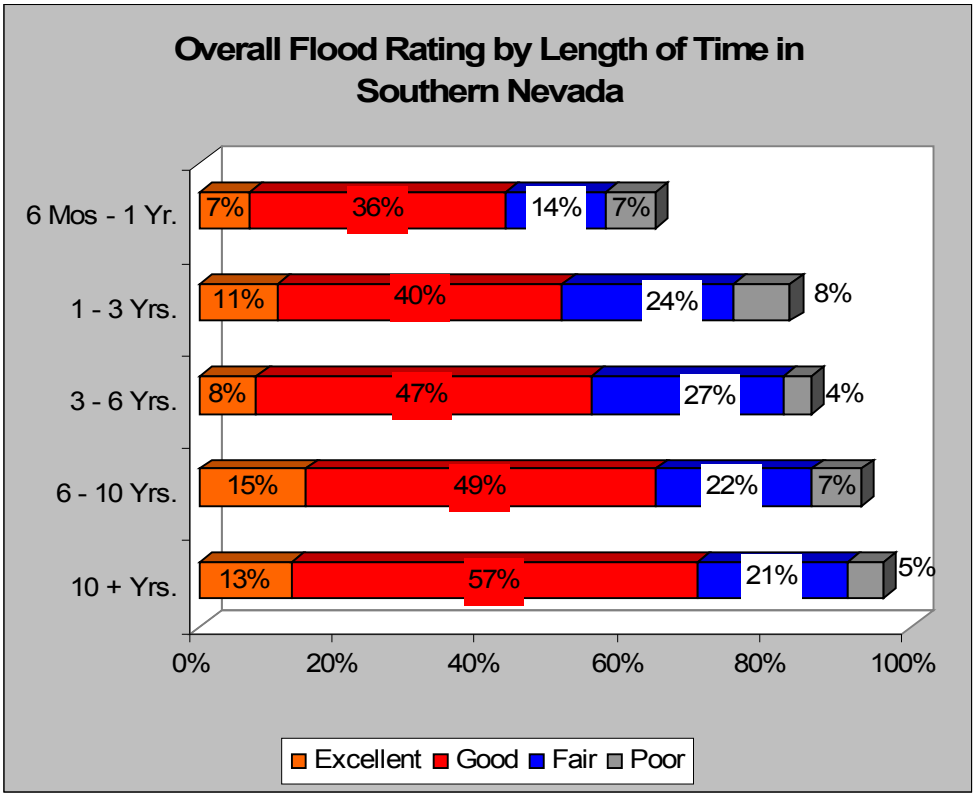
Overall Flood Control Rating by Area



When looking at the graph above[19] which depicts the data by area, there is not much disparity in the answers from those that live in the Southeast, Southwest, and Northeast. In these areas at least 64% of respondents rated flood control as "good" or "excellent".

Respondents in the Northwest were the least likely (54%) to rate flood control as "good" or "excellent".

Overall Flood Control Rating by Length of Time in Southern Nevada

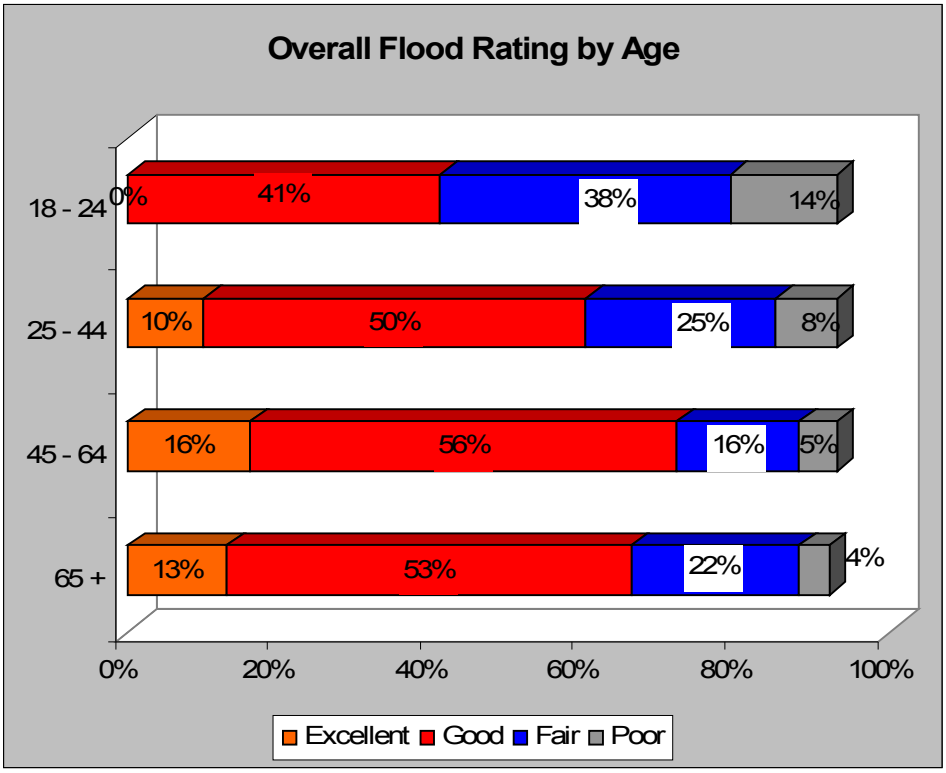


The graph above depicts the data by the length of time the respondent has lived in the area. The data shows that the longer the resident has lived in Southern Nevada, the more positively he/she rated overall flood control in the area. This is most likely a result of having lived through several bad flood seasons and seeing firsthand the improvements that have been made. The

[19] The total percentage in this graph and the following two graphs do not add up to 100%, the missing percentages represent the "don't know" responses.

lowest incidence was the 43% of those who have lived here for a year or less who rated flood control positively. Conversely 70% of those who have lived here ten years or longer rated overall flood control positively.

Overall Flood Control Rating by Age



The graph above depicts the data by the age of the respondent. Those in the youngest age group (18 – 24) were the least likely to rate overall flood control positively (41%), while those in the 45 – 64 age group were the most likely (72%). In the other age strata 60% of the 25 – 44 year olds and 66% of those in the 65+ stratum rated overall flood control positively.

Cable Television / Flood Channel

Respondents were asked if they have cable television, and specifically asked to exclude DISH or satellite TV. Those respondents who answered yes (73%) were then asked if they had ever watched the Flood Channel on cable channels 2 or 4. Thirty-nine percent (39%) of those respondents that have cable

television reported that they have watched the Flood Channel. This is similar to the 38% of respondents in 2007 that indicated that they have watched the Flood Channel; this represents 209 respondents. Those respondents who had watched the Flood Channel were asked (unprompted) what they remember most from watching it. The following table provides the rank order of responses.

Table 8: What remembered most from watching Flood Channel

Item	% 2008	% 2007	% 2006
Dangers of flash flooding	45%	48%	40%
Safety precautions	31%	43%	29%
Unable to specify	18%	21%	29%
Where to learn more about flooding	7%	16%	4%
Ways floods are controlled	10%	13%	14%
Other[1]	18%	13%	9%
Time of year flooding occurs	12%	11%	3%
How to protect the environment	5%	4%	N/A
Availability of flood insurance	4%	2%	2%

1. Other responses include: "people standing on cars", "the wash", "and the license plate billboards", and "why Henderson floods more than Las Vegas"

As can be seen from the table above, what respondents remembered the most from watching the Flood Channel is the dangers of flash flooding, fifty percent of respondents reported such. There has also been a decrease in the percentage of respondents who remember learning about safety precautions that can be taken regarding flooding. Thirty-three percent remembered such after a large increase last year the percentage is closer to the 2006 data .In 2006, 29% remembered about such safety precautions, while in 2007 that percentage rose 14 percentage points to 43%. Eight percent indicated that that they learned where to find out more about flooding by watching the Flood Channel, and ten percent remembered the ways that floods are controlled.

Three percent learned about the about the time of year that flooding occurs, this item also dropped to its 2006 level, (3% in 2006 to 11% in 2007). Five percent remembered "how to protect the environment" 4% indicated that they learned about the availability of by watching the Flood Channel. The percentage of those who remembered about the availability of flood insurance is up two percentage points from 2007.

Themes Remembered from Watching the Flood Channel

A new question was added this year, it was *"Can you identify the specific themes of any Flood channel programs that you have watched. This would be an entire program devoted to a single topic."* This question was asked of those who indicated that they have watched the Flood Channel (N = 193). Thirty-five respondents remembered a specific theme this represents 18% of the group that has watched the Flood channel. This mirrors the data collected in 2007. Many of the responses were generic such as "flood control" "flood safety" and "flood rescues". Among those that remembered a specific theme were:

"Charleston flooding several years ago"

"flood channel construction"

"flood water rescue training"

"Improved flood channels"

"don't drive through floods"

"How to preserve the environment in case of a flood"

"a program about the water district and conservation"

"the detention basin"

" stay off the road during heavy rain and how to drive in heavy rain"

Demographic Profile of Flood Channel Viewers:

The longer a respondent lives in the area the more likely he/she is to have watched The Flood Channel. Forty-three percent (43%) of those who have lived in the area for at least 6 years reported that they watch the Flood Channel, this is the highest occurrence and mirrors last years data. For respondents who

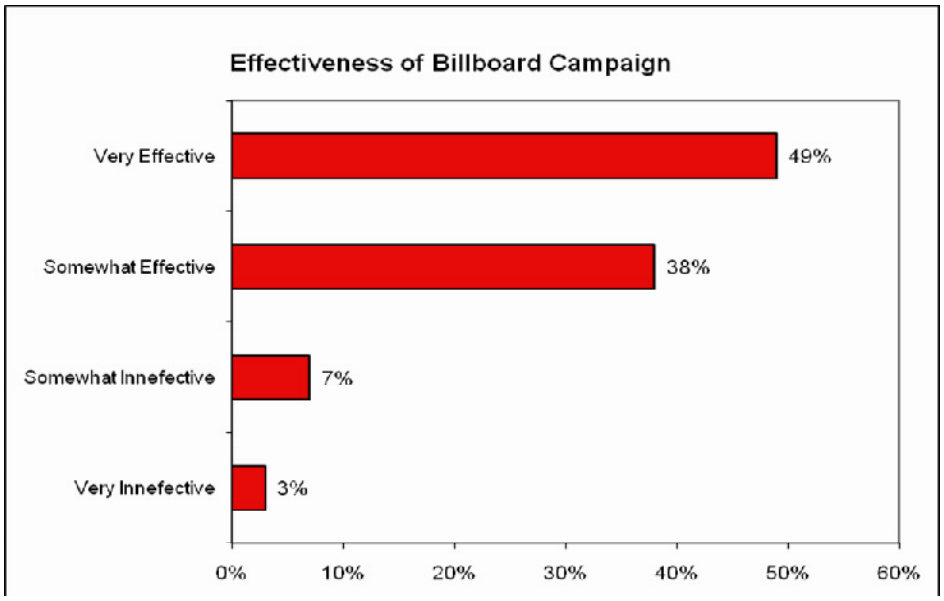
have lived here 3 to 6 years the percentage drops to 39% and continues dropping down to 25% for those respondents who have lived in Southern Nevada six months to less than a year.

There is some disparity in the data based on the area of residency watching the Flood Channel. Among those in the Southwest 48% indicate that they watch the Flood Channel; this is the highest occurrence. In the Northeast 44% watch the Flood Channel, while in the Southeast 40% watch the Flood Channel. The lowest incidence is the 35% in the Northwest who reported that they watch the Flood Channel.

Further, Flood Channel watchers are likely to be between the ages of 45 and 64 (44%), and they are more likely to be male (44%) than female (38%).

Flood Safety License Plate Billboard Campaign

Two new questions were added in 2007 (1) are you aware of the Flood Safety License Plate Billboard Contest and for those who said yes (2) do you think that the billboard campaign contest is an effective way to communicate flood control safety to the community. The wording of the first question was altered somewhat this year to read “Have you seen the flood safety license plate advertising campaign”. This is the first year that comparative data is available. More than half (53%) indicated that they had seen the flood safety license plate advertising campaign. This is an increase of 22 percentage points from those who were aware of the same in 2007 (31%). These respondents were asked to rate the effectiveness of the contest as a way to communicate flood safety to the community.



1. Bars do not add up to 100%, "not sure" responses not depicted (4%)

Most respondents (87%) think that the billboard public information campaign is effective, of these nearly half (49%) think that it is "very effective" and 38% think the billboard campaign is "somewhat effective. Ten percent (10%) do not think the contest is effective, of these 7% think that the contest is "somewhat ineffective" and 3% think it is "very ineffective". While the overall positive and negative responses are the same this year as in 2007, the percentage of those that think that the billboard campaign is very effective rose 6 percentage points from 43% in 2007 to 49% this year.

Spanish Speaking Respondents

Characteristics of Respondents:

Seven percent (7%) of the surveys were conducted with Spanish speaking respondents (N=51). This is somewhat lower than the number in the Spanish subset in 2007 (12%). The typical Spanish speaking respondent in this survey was female (80%) between the ages of 25 – 44 (60%) and has graduated from high school (45%). More than a third (37%) have been residents of Southern Nevada for between three and six years; this was the highest occurrence. Twenty-two percent are long time residents of Southern Nevada having lived in the area longer than 10 years. Only 2% have been in Southern Nevada 6 months or less and an additional 14% have been in Southern Nevada for between 6 months and a year.

When looking at the area data for the Spanish Subset, the highest incidence was the 47% who indicated that they live in the Northeast, this followed by 28% who live in the Southeast part of the Valley. In addition 15% live in the Northwest and 17% in the Southwest.

Unaided and aided awareness:

Seventy-one percent (71%) of respondents in the Spanish speaking sub-group (74% in the overall sample) were aware of weather related dangers that can occur in the area. Of these, 16 respondents were able to mention “flood” or “flash floods” unprompted. This represents 44% of the subset as compared to 60% of those who mentioned flood or flash flooding during the 2007 administration of the survey. When prompted, an additional 27 respondents were aware that flash flooding can occur in the area, thus combined awareness for the Spanish speaking subset was 84%. Combined awareness in the Spanish subset is down from the 2007 percentage of 95% and much closer to the 2006 percentage of 82%.

Flood Related Issues

Table 9: Flood Related Issues: Spanish Speakers vs. English Speakers

Flood Related Issue	% Agree English	% Agree Spanish	+/-[20] Spanish
I know about the dangers of flash flooding	98%	98%	+3
I know about the time of year flash flooding is most likely to occur in the area	88%	96%	+15
I know about safety precautions relating to flash flooding	93%	86%	-2
I know about the resources available to learn more about flash flooding	66%	70%	+26
I know ways in which flooding is being controlled in the area	79%	67%	-3
I know about the availability of flood insurance	85%	93%	+25

The table above shows the differences in the responses of the English speaking respondents and the Spanish speaking respondents and the increase or decrease in percentage points between the 2007 data and this year's Spanish responses. For all but two of the items (availability of resources to learn more about flash flooding and knowledge of safety precautions) the respondents in Spanish Subset continue to show increased awareness on flood related issues.

This year, the percentage of Spanish speaking respondents that indicated that they know the ways in which flooding is being controlled in the area went down slightly to 67% after a 51 percentage point increase in 2007. This item has the largest disparity (13 percentage points) between the English and Spanish subsets. Conversely there are 12 percentage points difference between the percentage of Spanish respondents who know the time of year flash flooding is most likely to occur (96%) and the English respondents who know the same (88%).

[20] This column shows the differences in the Spanish results between 2006 and 2007. This format is used for Tables 9 through 12.

There was also a slight decrease of 2 percentage points in the percentage of respondents that know about safety precautions relating to flash flooding (86%) after a 46 percentage point gain in 2007.

Two items had large increases. There was a 26 percentage point increase from 44% in 2007 to 70% this year for the item "I know about the resources available to learn more about flash flooding". Similarly there was a 25 point increase for the item "I know about the availability of flood insurance", from 68% in 2007 to 93% this year, this after a 32 point increase from 2006 to 2007.

In both groups 98% know about the dangers of flash flooding.

Sources for Information

In the next section of the survey respondents were asked to respond "yes" or "no" to a list that was read to them of possible sources for learning about flash flooding. Again the gap between responses from this sub-set and the English speaking subset got closer this year.

Table 10: Sources of obtaining flood information

Source	% English	% Spanish	+/- Spanish
Television	90%	94%	+2
Newspaper	58%	45%	-5
Radio	57%	61%	0
Friends / Relatives	54%	55%	-6
Billboards	53%	29%	-15
Brochure	26%	26%	+1
CCRFCD Website	20%	22%	+2
Welcome Home Magazine	5%	10%	+5

The table above shows the differences in the responses of the English speaking respondents and the Spanish speaking respondents and the increase or decrease in percentage points between the 2007 data and this year's Spanish

responses. Among both subsets television is the best way to deliver flood information as is indicated by the high percentage in both groups that reported that they had learned about flooding via that medium. In the Spanish speaking subset 94% indicated that they have learned about flash flooding from watching television as compared to 90% in the English speaking subset. Billboards as a source have the biggest disparity among responses. Whereas 53% of the English speaking subset indicated that billboards are a source for obtaining flood information 59% in the Spanish speaking subset indicated the same, and there was a 15 percentage point decrease in the percentage of Spanish speakers who indicated that they obtain flood information from billboards between this year (29%) and 2007 (44%).

Radio as a source for obtaining flood information remained constant at 61% for both 2007 and 2008. The use of the CCRFCD website as a source for flood information rose 2 percentage points in the Spanish subset from 20% in 2007 to 22% in 2008, this after a 12 percentage point increase last year. The same percentage (26%) of respondents in both the English and Spanish speaking subsets indicated that they got flood information form brochures.

Cable Television and the Flood Channel

Fifty-nine percent (59%) of Spanish speaking respondents have cable television compared to 74% of the English speaking respondents. Last year 68% of the Spanish speaking respondents indicated that they had cable television thus there is a decrease between last year and this year of 9 percentage points in the number of Spanish speakers who reported that they have cable television. From the group with cable television 7 respondents reported to have ever watched the Flood Channel. This represents 23% of the subset as compared to 40% of the English speaking respondents who have ever watched the Flood Channel.

Flood Insurance Issues

There was a decrease in awareness of several issues related to flood insurance among the Spanish respondents. The largest decrease was in the

knowledge that flood insurance is available to everyone. Only 20% of the Spanish subset were aware of this compared to 64% who were aware of the same in 2007. Another item with a large decrease in awareness among the Spanish subset is "if you live in a flood zone you must buy flood insurance. Twenty-four percent of the subset was aware of this year as compared to 63% in 2007. However, there was an increase of six percentage points from 2007 for the item "flood insurance costs the same regardless of whether or not the residence is in a flood zone". Forty-nine percent of the Spanish subset was aware of this as compared to 43% who were aware of the same in 2007.

Mirroring last years data, 37% of the Spanish respondents know that flood insurance is available to those who do not live in a flood zone. The item that was added this year "you can't buy flood insurance if you don't live in a flood zone" was answered correctly by 35% of those in the Spanish subset.

Experience with Flooded Roads:

Fifty-nine percent (N = 30) of Spanish speaking respondents reported that they had at some time encountered a flooded street or road either as a driver or passenger in Southern Nevada; this compared to seventy-eight percent (78%) of the English speaking respondents that reported the same. Fifty-seven percent (57%) of the respondents in the Spanish group made a good or appropriate choice and turned around and took an alternate route or waited for the water to go down before driving through it; this is similar to the 59% of the Spanish speakers who made an appropriate choice during the 2007 administration of the survey. Sixty-seven percent (67%) of the English speaking respondents made an appropriate choice when encountering a flooded road.

Among those that made an inappropriate choice, 30% drove through the water and made it and 13% drove through it and got stuck.

Streets "Are" or "Are Not" a part of the flood control system

- 58% of English speaking respondents answered correctly.
- 47% of Spanish speaking respondents answered correctly.

- This is a decrease of 15 percentage points from 2007(62%) after an increase of 25 percentage points in 2007.

"Some" or "All" runoff and rainwater drains into Lake Mead

- 37% of English speaking respondents answered correctly
- 26% of Spanish speaking respondents answered correctly
  - This is a decrease of 9 percentage points from 2007 (35%).

The urban runoff and rainwater that travels through the flood control system is "treated" or "untreated".

- 49% of English speaking respondents answered correctly
- 8% of Spanish speaking respondents answered correctly
  - This is a decrease of 32 percentage points from 2007 (40%)

Table 11: Behavior changes to improve the environment and Lake Mead

Behavior Change	*% English Speakers*	*% Spanish Speakers*
Water Conservation	**28%**	**0%**
Proper disposal of general waste	**15%**	**4%**
Proper disposal of oil	**10%**	**39%**
Proper disposal of chemicals	**12%**	**0%**
Reuse bags	**3%**	**5%**
Other	**2%**	**0%**
Use a commercial car wash	**6%**	**9%**
Desert landscaping	**10%**	**0**
Proper disposal of pet waste	**5%**	**10%**
Use of green products	**4%**	**8%**
General recycling	**6%**	**0%**
Use of organic fertilizers	**2%**	**6%**

Reporting of clogged storm drains	1%	6%
Unable to specify	2%	0%
Composting	2%	0%

The table above shows the differences in the responses of the English speaking respondents and the Spanish speaking respondents. As indicated earlier, because of the different way the question was asked this year the data cannot be compared to last year's date. There are, however some differences in the responses of the English and Spanish speaking subsets.

While 28% of the English speakers indicated that they are conserving water, none in the Spanish subset reported the same. While English speakers(15%) were more likely than Spanish speakers (4%) to properly dispose of general waste, Spanish speakers were nearly three times more likely than English speaking respondents to report that they properly dispose of oil (10% English speakers, 39% Spanish speakers). None of the Spanish Speakers reported that they are disposing of chemicals properly to help protect the environment while 12% of the English speakers are. Three percent of English speakers and 5% of Spanish speakers also reported that they are reusing bags to help the environment.

The percentage of English speakers who are using a commercial car wash to help the environment and Lake Mead is 6% for English speakers and 9% for Spanish speakers. In addition Spanish speakers (10%) are twice as likely as English speakers (5%) to report that they are properly disposing of pet waste and using green products (4% English speakers, 8% Spanish speakers). Spanish speakers (6%) are also more likely to use organic fertilizers than English Speakers (3%) and more likely to report a clogged storm drain (1% English speakers, 6% Spanish speakers). On the other hand none of the Spanish speakers reported that they are using desert landscaping, composting, or recycling in general to help the environment and Lake Mead.

If you knew what to do, would you be willing to change your behavior if you know it would improve water quality?

- Eighty-nine percent (95%) of English speaking respondents are willing to change a behavior to improve water quality
- All (100%) of Spanish speaking respondents are willing to change a behavior to improve water quality.
    - This is an increase of 5 percentage points from last year (95% 2007)

Would you like to know more about how to keep the environment clean?

- Sixty-seven percent (67%) of English speaking respondents would like to know more about how to keep the environment clean.
    - This is an increase of 5 percentage points from last year (62% 2007).
- Ninety-four percent (94%) of Spanish speaking respondents would like to know more about how to keep the environment clean.
    - This is an increase of 9 percentage points from last year (85% 200).

Where would you like to get information on how to keep the environment clean?

Table 12: Sources for environmental information

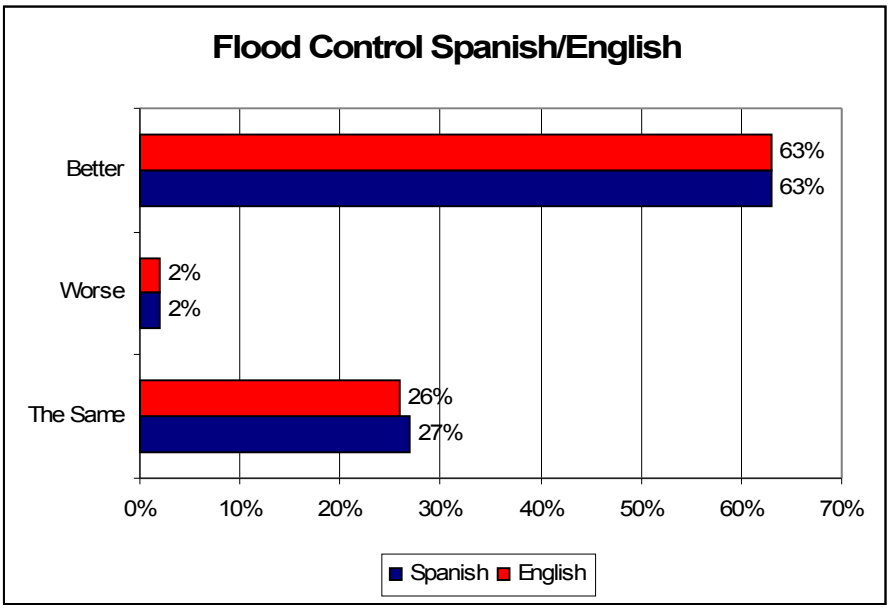
Rank	Source of Information	Percent (%)
1	Store	29%
2	Mail	25%
3	Internet/Website/Email	15%
4	School	13%
5	Television	10%
6	Library	4%
6	Newspaper	4%

The table above shows the most often given responses to this open ended question. There are some differences again in the data collected this year and in 2007. For example, in 2007 the main source for environmental information was

TV (35%) this year television dropped to 5th (10%) and "store" which was not mentioned last year was the most often given response this year (29%).

Mail is the second method that the Spanish subset prefers as a source for environmental information (25%). This was followed by 15% want to use the internet and 13% who want to get the information at school or from their children at school. Four percent cited the library or newspaper as a source for obtaining environmental information.

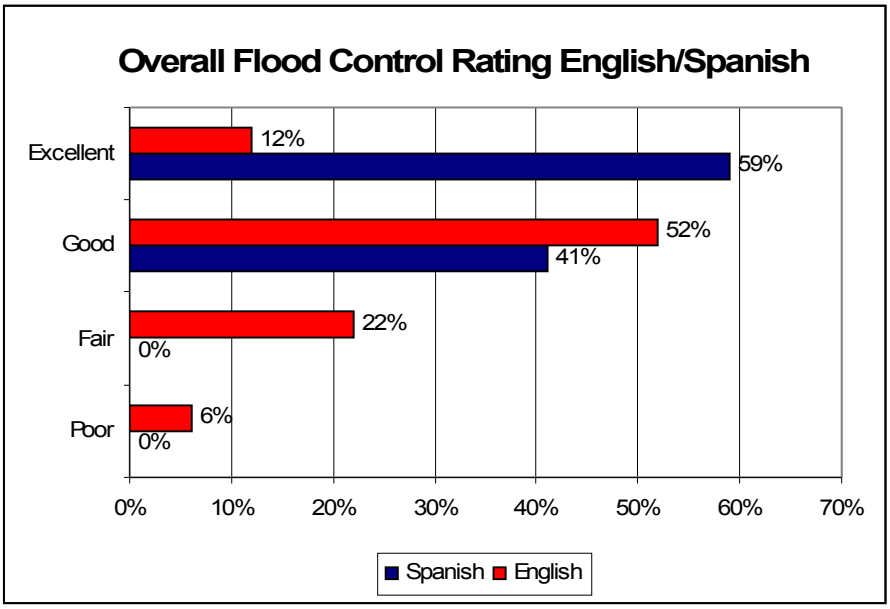
Flood Control Rating:



When asked *"since you became a resident of Southern Nevada, do you think the way flood control is being handled in our valley has gotten better, gotten worse or stayed about the same"* the responses of both the Spanish and English speaking respondents are almost identical with the exception of one percentage point difference in the percentage who think that flood control has stayed the same. Sixty-three percent of both the Spanish speakers and the English speakers think that flood control has gotten better since moving to Southern Nevada. Likewise in both the Spanish and English subsets 2% think flood control has gotten worse. Twenty-six percent of English speaking respondents

and 27% of Spanish speaking respondents indicated that since they moved to the area flood control has stayed about the same.

Overall Flood Control Rating[1]:



1. Bars do not add up to 100%, "don't know" responses not depicted.

All (100%) of the Spanish speaking respondents rated flood control overall positive; this is up 42 percentage points from the 58% who rated overall flood control positively in 2007. Among these 41% rated flood control good and 59% rated flood control over excellent. None of the Spanish speaking respondents rated flood control overall fair or poor.

Among the English speaking subset, 64% rated flood control overall positive, (52% good, 12% excellent) 28% rated it negatively and of these 22% thought overall flood control was fair and 6% thought it was poor.

Conclusions

Overall, awareness of flooding as a weather related natural disaster remains extremely high. Combined/total awareness remains high with 94% of respondents indicating that they are aware that flooding or flash flooding is a weather related disaster that can occur in Southern Nevada. This is similar to the data collected in the past ten years that this survey has been administered. During the past decade, overall awareness of floods as a weather related danger has ranged from a low of 90% to a high of 97%. Unaided and combined awareness are up among Southern Nevada's newest residents. For example, in 2007 unaided awareness among those who have been here for less than six months was 36%; this year that percentage has increased 14 percentage points to 50%. Similarly among this subset, combined awareness increased eight percentage points from 82% in 2007 to 90% this year. The score for unaided awareness (67%) was higher for those who have lived in Southern Nevada for six months to a year than it was in any of the other length of residency subsets. At one year, combined awareness was measured at 90%, at least 90% of all residents who have lived here a year are aware of flooding as a weather related disaster (combined and aided) with the peak at 98% among those who have lived in the area for 10 years or longer.

Awareness of the flood related issues that have been assessed since 1999[21] remain consistently high and there was an increase in awareness for five of the six items in this section. One item "I know the ways in which flooding is being controlled in the area" mirrors the 2007 data with 79% who are aware of this item. Residents in Southern Nevada have consistently reported that they "know about the dangers of flash flooding" with 98% awareness measured this year. Three items in this series increased by four percentage points this year they are "I know about the time of year that flash flooding occurs" which increased to 88% from 84%, "I know about the safety precautions relating to flash flooding" which increased to 93% from last years 89%, and "I know about

[21] See Table 3, page 18.

the resources available to learn more about flash flooding which increased to 67% from 63% in 2007.

The issue with the biggest increase between 2007 and 2008 was "I know about the availability of flood insurance" This year the percentage of respondents who are aware of the availability of flood insurance increased by 8 percentage points to 85%. It is apparent that the marketing efforts to increase awareness of the cost of flood insurance has increased the overall percentage of people who know about the availability of flood insurance.

There is also a statistically significant relationship between age and knowledge of the ways that flooding is controlled in the area.[22] When looking at the data by age, the youngest respondents (18 – 24) were the least likely (33%) to be aware of the ways that flooding is controlled in the area while the oldest respondents (65+) were the most likely to be aware of the same (88%). Eighty-three percent (83%) of the respondents between the ages of 46 and 64 and 75% of those between the ages of 25 and 44 indicated awareness of the ways in which flooding is controlled in the area. The percentage of those in the youngest age strata dropped from 66% in 2007 to 33% in 2008. Again, this could be a result of the relatively few (N = 36) participants in this group as compared to the other age groups who all have well in excess of a hundred participants

When looking at the series of questions relating to flood insurance there were some dramatic changes in the responses this year. First, the structure of the questions was changed. The data, programming and field procedures were checked for any inadvertent errors that would lead to such a difference and none were found. In the past, the items were presented as statements that the respondent could agree or disagree with. They had a four point agree disagree scale (agree, somewhat agree, somewhat disagree, and disagree). Results were tabulated as a positive (agree, somewhat agree) and negative (somewhat disagree, disagree) scores which were combined with the positive results representing the true responses and the negative results representing the false answers. This year it was decided to present the items as with a true false

[22] Pearson Chi-Square significant at .000

response. As is indicated by the responses, this change had an affect on the responses. By eliminating the weaker positive and negative responses (somewhat agree, somewhat disagree) respondents were forced to make a choice between two items. In addition, asking respondents for a true/false response indicates to them that there is a correct/incorrect answer. Even though a good portion of the survey is designed to assess knowledge of flood related issues, the wording of this years statements may have been unnerving to the respondents, bringing attention to the fact that they could answer the question incorrectly. A very definite data pattern emerged when looking at the results from the five questions in this series. First, approximately half of the respondents answered "false" in all five questions; likewise about a quarter answered "true" for all five questions and a quarter answered "don't know" for all five questions.

Although awareness of flood insurance issues decreased this year for the reasons stated above, one item showed a slight increase. That item is "flood insurance costs the same regardless of whether or not the residence is in a flood zone" This year 54% knew that this was a false statement as compared to 51% who knew the same in 2007. Also, there was one new item this year. Baseline data was collected for the item "you can't buy flood insurance if you don't live in a flood zone". Half (50%) of the respondents knew that this was a false statement.

Marketing efforts aimed at new residents to Clark County through Welcome Home magazine and other direct mail pieces appear to be working. On several of the flood insurance items, respondents who have lived in the area for 6 months to a year had the highest percentage of awareness. For example, for the item "flood insurance is available to everyone", 87% of those who have lived here between six months and a year knew that this was true. This compared to 75% of those who have lived here six to ten years and 69% of those who have lived here longer than ten years who knew the same. In addition 80% of those who have lived here for six months to a year knew that "you can't buy flood insurance if you don't live in a flood zone" is a false statement. This compared to 74% of those who have been here six to ten years and 66% of

those who have been in Southern Nevada longer than ten years who knew the same.

The items in this section continue to yield lower results than that of the other flood related issues. More effort should be put forth to provide information about flood insurance to the public to increase overall awareness

.Sixty-seven percent (67%) of respondents made a good or appropriate choice when encountering a flooded road in Clark County. This is the same as the 67% who did the same in 2007 and similar to the 68% who did the same in 2006. By far the largest percentage of respondents who made a good or appropriate choice (62%) "turned back and took an alternate route" (N = 317). Seven percent (7%) "waited for the water to go down then drove through it" (N = 38). These are similar to the responses that were obtained in the 2007 administration of the survey.

In one series questions the respondents were asked it they would like to know more about how to keep the environment clean, 68% indicated that they would. This is up 4 percentage points from the 64% who wanted more environmental information last year. Respondents were further asked to indicate how they would like to get information on keeping the environment clean. Unprompted, 53% said they would like to receive information via the internet. This is up 10 percentage points from 2007 (43%) after an increase of 9 percentage points from 2006 (31%). This may be a way for the District to provide information not only about keeping the environment clean, but also information about flood insurance.

Similar to last years results there has again been an increase in the activities that respondents are doing as a result of knowing that urban runoff is untreated. As in last year's administration of the survey, the respondents were not read a list, but their answers were coded into categories by the interviewer based on the response. Many of the behavior changes reported by the respondents were in the manner in which they are disposing of waste, from general waste to oil and chemicals. However, the number one behavior change that people in Southern Nevada are doing to help protect the environment and

Lake Mead is conserving water, from changes in landscaping to awareness of water consumption.

Respondents were asked whether some or all of the urban runoff that travels through the flood control system drains into Lake Mean. The percentage who correctly answered that “all” of the urban runoff that travels through the flood control system drains into Lake Mead has remained fairly constant since this question was added to the annual assessment in 2006. This year 36% responded correctly. Forty-two percent responded incorrectly that “some” of the runoff drains into Lake Mead”, this is down from 46% who responded the same in 2007. Since the percentage of respondents who understand that all of the urban runoff that travels through the flood control system drains into Lake Mead has remained fairly constant at slightly over a third, this may be an area that the CCDRFD may want to develop some materials to increase overall understanding.

The data collected in this year’s 2008 Flood Awareness Survey indicates that the District’s Public Information Program has had success in prompting residents to make behavior changes to improve water quality. Ninety-five percent (N = 666) answered yes, they would be willing to change a behavior if they know it would improve water quality. This is the highest percentage obtained for this item since this question was added to the survey in 2006 (89% - 2007, 90% - 2006). There seems to be a genuine willingness to make behavior changes to help the environment.

Females (96%) are more willing to make a change than males (93%). The data also shows that the younger the respondent, the more willing they are to make a behavior change to improve water quality. All (100%) of those in the youngest age group (18 – 24) are willing to make a behavior change to help improve water quality. This percentage drops to 96% for the 25 – 45 age group, 95% for the 46 – 64 age group and finally to 92% in the oldest age group (65+). Only 3% (N = 18) are not willing to make a behavior change to improve water quality and an additional 3% are not sure whether or not they would make a behavior change to improve water quality.

Sixty-three percent (N = 410) of respondents feel that since the time that they have become residents of Southern Nevada the way that flood control is handled has gotten better. Twenty-six percent (N = 167) think that it has stayed about the same and 9% (N = 58) are not sure. Only 2% (N = 14) of respondents think that the way flood control is handled has got worse. These figures are similar to the 2007 data.

Respondents were asked if they have cable television, and specifically asked to exclude DISH or satellite TV. Those respondents who answered yes (73%) were then asked if they had ever watched the Flood Channel on cable channels 2 or 4. Thirty-nine percent (39%) of those respondents that have cable television reported that they have watched the Flood Channel. This is similar to the 38% of respondents in 2007 that indicated that they have watched the Flood Channel; this represents 209 respondents. Those respondents who had watched the Flood Channel were asked (unprompted) what they remember most from watching it. The things that they remember most are "the dangers of flash flooding" (45%) and "safety precautions" to take if flooding occurs (31%).

Respondents continue to react positively to the Flood Safety License Plate billboard campaign. More than half (53%) indicated that they had seen the flood safety license plate advertising campaign. This is an increase of 22 percentage points from those who were aware of the same in 2007 (31%). These respondents were asked to rate the effectiveness of the contest as a way to communicate flood safety to the community. Eighty-seven percent think that they billboard campaign is effective. The District should continue this effort.

Spanish Speakers Subset

Public awareness efforts on flood related issues directed towards Spanish speaking respondents continue to be successful. For some of the items there have been large increases in awareness. For example 70% of those in the Spanish speaking subset indicated that they know about the resources available

to learn more about flash flooding. This is up 26 percentage points from 2007 (44%) and 16 percentage points higher that the responses from the English speaking subset (66%). Similarly with an increase of 25 percentage points from 2007, 93% of those in the Spanish speaking subset indicated that they know about the availability of flood insurance. This compared to 85% from the English speaking subset who know the same.

Fifty-nine percent (N = 30) of Spanish speaking respondents reported that they had at some time encountered a flooded street or road either as a driver or passenger in Southern Nevada; this compared to seventy-eight percent (78%) of the English speaking respondents that reported the same. Fifty-seven percent (57%) of the respondents in the Spanish group made a good or appropriate choice and turned around and took an alternate route or waited for the water to go down before driving through it; this is similar to the 59% of the Spanish speakers who made an appropriate choice during the 2007 administration of the survey. Sixty-seven percent (67%) of the English speaking respondents made an appropriate choice when encountering a flooded road.

Those from the Spanish subset are very receptive to modifying behavior to help the environment. All (100%) indicated that they are willing to change a behavior to improve water quality. In addition 94% would like to know more about how to keep the environment clean. Fewer respondents from the Spanish subset (59%) than the English subset (74%) have cable television. Further, television ranked 5th out of six sources for obtaining environmental information. Members of the Spanish speaking subset indicated they the best place to reach them is via “store” advertising and direct mail.

All (100%) of the Spanish speaking respondents rated flood control overall positive; this is up 42 percentage points from the 58% who rated overall flood control positively in 2007. Among these 41% rated flood control good and 59% rated flood control over excellent. None of the Spanish speaking respondents rated flood control overall fair or poor.

Awareness levels in excess of 90% are extremely difficult to achieve in marketing brand awareness, and the District has achieved such and done so

consistently for the past decade. The efforts and programs in place should continue, including the Flood Safety License Plate Billboard Contest. The modifications aimed at Spanish speaking residents were hugely successful and should also be continued perhaps with an emphasis on materials placed in Spanish supermarkets and/or a direct mail campaign. In addition the media campaign targeting Clark County's newest residents should continue as it yielded very positive results in 2008.

Any questions regarding this research project or summarized results or for further information please contact:

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Addendum 1: Zip table and map

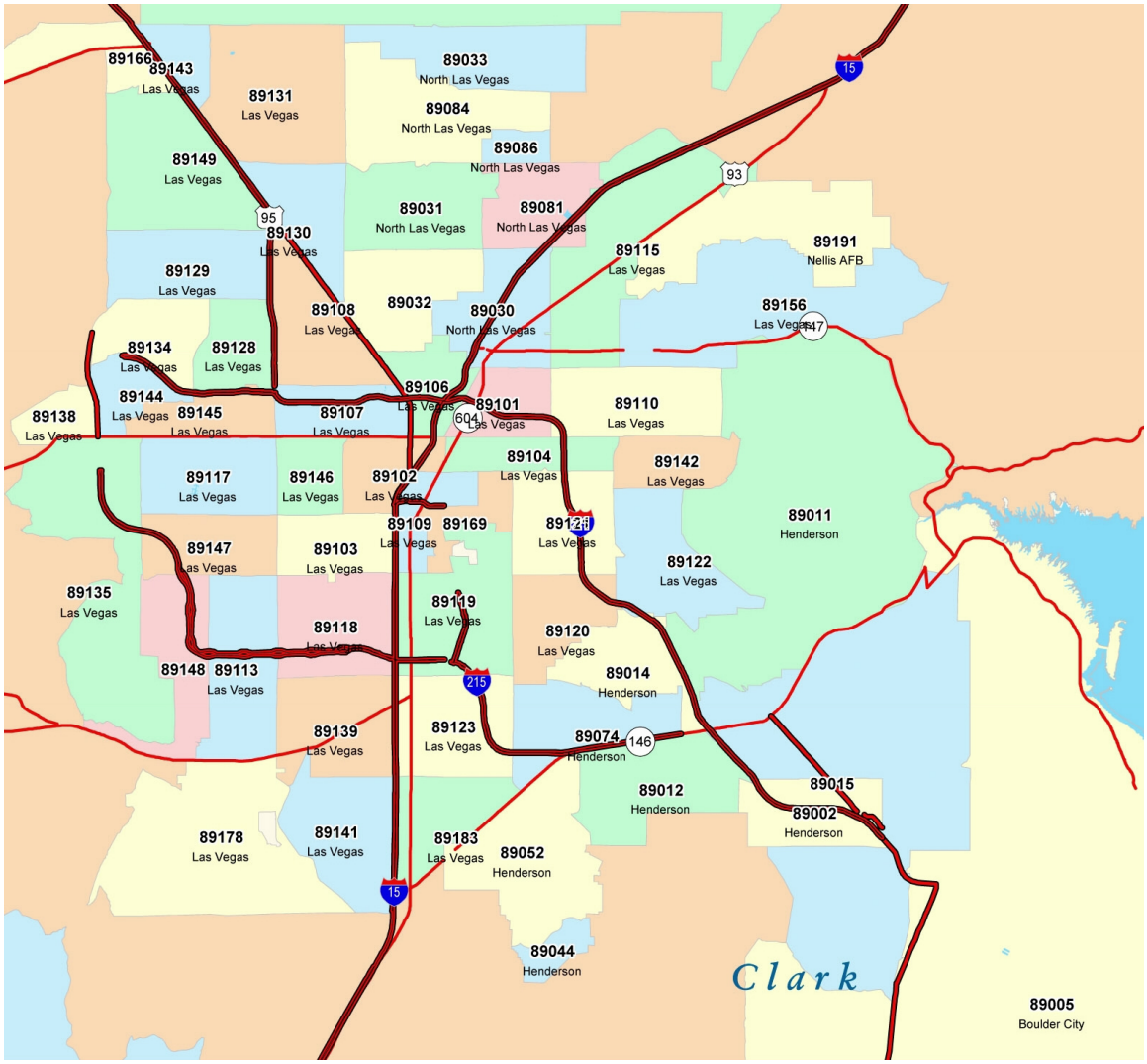
Table 13: Zip codes by area

Number	Zip	Area
11	89030	Northeast
22	89032	Northeast
1	89086	Northeast
9	89101	Northeast
3	89105	Northeast
8	89106	Northeast
28	89110	Northeast
16	89115	Northeast
1	89116	Northeast
1	89125	Northeast
7	89156	Northeast
16	89031	Northwest
7	89081	Northwest
11	89084	Northwest
13	89107	Northwest
23	89108	Northwest
13	89128	Northwest
17	89129	Northwest
8	89130	Northwest
26	89131	Northwest
13	89134	Northwest
5	89138	Northwest
5	89143	Northwest
7	89144	Northwest
6	89145	Northwest
8	89149	Northwest
1	89166	Northwest
9	89005	Outlying
2	89007	Outlying
6	89011	Outlying
4	89029	Outlying
13	9999	Refuse
21	89002	Southeast
13	89012	Southeast
11	89014	Southeast
20	89015	Southeast
10	89044	Southeast
23	89052	Southeast

25	89074	Southeast
11	89104	Southeast
2	89109	Southeast
18	89119	Southeast
8	89120	Southeast
24	89121	Southeast
21	89122	Southeast
22	89123	Southeast
8	89141	Southeast
13	89142	Southeast
8	89183	Southeast
8	89102	Southwest
17	89103	Southwest
5	89113	Southwest
27	89117	Southwest
4	89118	Southwest
11	89135	Southwest
7	89139	Southwest
6	89146	Southwest
12	89147	Southwest
10	89148	Southwest
2	89179	Southwest
1	89050	Unable to Identify
6	89169	Unable to Identify
5	89178	Unable to Identify
1	89516	Unable to Identify

Addendum 2

Zip Code Map



Addendum 3

2008 Survey Instrument

Hello, my name is [YOUR NAME] I am calling from UNLV. We are conducting a short survey on behalf of a Clark County public agency. We are not selling anything, or asking for donations. 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 TO SEVEN MINUTES DEPENDING ON HIS OR HER RESPONSES.]

[IF RESPONDENT ASKS, THE NAME OF THE AGENCY WILL BE REVEALED AT THE END OF THE SURVEY.]
[THE TOPIC OF THE SURVEY IS "WEATHER RELATED DANGERS" DO NOT BE ANY MORE SPECIFIC THAN THAT]

INTERVIEWER: Press 1, AND THEN CLICK NEXT TO CONTINUE

Question Q16dem3
Interviewer record gender

[40.1]Male
[59.9]Female

Question QA
Can you please tell me your zip code?

INTERVIEWER TYPE "9999" for refuse

Question Qb
How long have you lived in Southern Nevada?

[1.6]Less than 6 months
[2.9]6 months to less than 1 year
[10.3]1 year to less than 3 years
[15.1]3 years to less than 6 years
[16.0]6 to 10 years
[54.1]Longer than 10 years
DK
Refuse

Question Q1

Are you aware of any weather related dangers that can occur in the area?

[78.3] Yes
[21] No
[.7] Not Sure

Question Q2unaided
What types of weather related dangers are you aware of that can occur in the area?

[INTERVIEWER: DO NOT READ THE CATEGORIES USE FOR CODING PURPOSES ONLY]

[65.7] Floods / Flash Floods
[36] Dust storms / High winds
[19] Heavy Rain / Thunder Storms
[23] Heat
[16.9] Fire / Lightening
[6.1] Earthquake
[1.3] Unable to specify
[2.4] Other

Question Q2aided
Are you aware that flash flooding can occur?

[87.1] Yes
[12.5] No
[.4] D/K

Question Q3know
Now I'm going to read a few statements and I'll like to know if you "Agree", "Somewhat Agree", "Disagree" or "somewhat Disagree" with each.

I KNOW . . .

[97.1] about the dangers of flash flooding
[84.1] about the time of year flash flooding is most likely to occur
[89.3] about safety precautions relating to flash flooding
[63.2] about resources available to learn more about flash flooding
[79.1] about ways in which flooding is controlled in the area
[76.7] about the availability of flood insurance

Question Q4sour
From the list I am going to read, please tell me either "YES" or "NO" if you have learned about flash flooding from that source.

[21] Brochure

[51.1] Billboard
[89.9] Television
[59.6] Radio
[60.1] Newspaper
[6.3] Welcome Home Magazine
[19.6] Clark County Regional Flood Control District Website
[53.6] Friends and/or other relatives

Question Q5kid
Do you have children in elementary school?

[INTERVIEWER: That's kindergarten through 5th grade]

[19.1] Yes
[80.9] No

Question q5kid2
Did your school age child(ren) bring information about flood awareness home from school within the past year?

[23.1] Yes
[66.4] No
[10.4] Not Sure

Question Q5kid3
Has your child talked to you about flood safety that he/she learned at school?

[19.4] Yes
[76.1] No
[4.5] Not Sure

Question Q100zone
Do you live in a 100 year flood zone?

[10.3] Yes
[47.9] No
[41.9] Not sure

Question Q100zone2
Do you know how to find out if you live in a 100 year flood zone?

[42.4] Yes
[50.7] No
[6.9] Not Sure
Refuse

Question Q6insur
How much do you agree or disagree with the following statements about flood insurance?

[60.3] Flood insurance is available to everyone
[60.7] Flood insurance will only cover damage to the structure of a residence
[58.4] Flood insurance is only available to those who live in a flood zone
[59] Flood insurance is available to cover damage to the contents of a residence
[51.5] The cost of flood insurance is the same regardless of whether or not the residence is in a flood zone
[38.8] If you live in a flood zone you must buy flood insurance

Question Q100zone3
Do you have flood insurance?

[10.0] Yes
[83.1] No
[6.9] Don't Know

Question Q100zone4
Flood insurance is a separate policy from homeowners insurance to cover flood damage from a weather related event. Do you have such a policy?

[10.3] Yes
[76.7] No
[12.7] Not sure

Question Q7flsT

INTERVIEWER: READ THE FOLLOWING VERBATIM BEFORE ASKING THE QUESTION: [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.]

Have you ever encountered a flooded street or road as either a driver or a passenger of a vehicle while on a road?

[73] Yes
[27]No
Not Sure
Refuse

Question Q7FLST2
Thinking back to the last time you came to a flooded street, which of the following statements best describes what you or the driver did?

[INTERVIEWER: ONLY READ THE FIRST FOUR "RED' CHOICES]

[62.2] Turned back and took an alternate route
[4.3] Waited for the water to go down, and then drove through it
[28.6] Drove through it and made it
[2.3] Drove through it and got stuck
[1.6] Don't remember
[1.0] Other
Refuse

Question QFLST3
Why did you drive through it?

[INTERVIEWER: DO NOT READ RESPONSES, USE FOR CODING ONLY]

[8.9] I was in a hurry
[66.5] Didn't think it was unsafe to do so
[5.7] Thought it would be fun to do
[5.1] Didn't know any better
[.6] Not sure
[13.3] Other
Refuse

Question Q8FC
I am going to read a couple of statements please tell me which one is true?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

[64.6] Streets ARE a part of the flood control system
[24.6] Streets are NOT a part of the flood control system
[10.9] Don't know
Refuse

Question Q9RW
Which of the following statements is true?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

[45.9] SOME of the urban runoff and rainwater that travels through the flood control system drains into Lake Mead
[36.7] ALL of the urban runoff and rainwater that travels through the flood control system drains into Lake Mead
[17.4] Don't know
Refuse

Question Q9URBAN1
Which of the following statements is true?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

[25.9] The storm water and urban runoff and rainwater that travels through the flood control channels and storm drains is treated
[56.7] The storm water and urban runoff and rainwater that travels through the flood control channels and storm drains is untreated
[17.4] Don't know
Refuse

Question Q9URBAN2
Which of the following statements is true?
[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

[32.1] The urban runoff and rainwater that travels through the flood control system is treated
[49.3] The urban runoff and rainwater that travels through the flood control system is NOT treated
[18.6] Don't know
Refuse

Question Qrw3
As a result of knowing that the urban runoff and rainwater are NOT treated, have you changed any behaviors that would help protect the environment?

[38.8]Yes
[54.8]No
[6.4]Not Sure
Refuse

Question Q9rw4
What have you done as a result?

[INTERVIEWER: DO NOT READ CATEGORIES USE FOR CODING ONLY]

[8.4]Proper disposal of chemicals
[12.1]Proper disposal of general waste
[6.1]Proper disposal of oil
[4.1]Proper disposal/clean up of pet waste
[4.0]Use of a commercial car wash
[2.4]Use of organic fertilizers
[2.4]Reporting of clogged storm drains
[.6] Unable to specify
[2.0]Other

Question Q10beh

If you knew what to do, would you be willing to change your behavior if you knew it would improve water quality?

[38.8] Yes
[54.8] No
[6.4] Not Sure
Refuse

Question Q11info
Would you like to know more about how to keep the environment clean?

[64.3] Yes
[27] No
[8.7] Not sure
Refuse

Question Q11info2
Where would you like to go to get information on how to keep the environment clean?

Question Q13rate
Since you have lived in Southern Nevada, do you think the way flood control is being handled in the area has gotten better, worse, or stayed about the same?

[64.9] Better
[2.4] Worse
[24] Stayed about the same
[8.6] Not Sure
[.1] Refuse

Question Q14rate
Overall, how would you rate the way flood control is being handled in Southern Nevada?

Would you say. . .

[13] Excellent
[50.1] Good
[25.4] Fair
[5.7] Poor
[5.6] Not Sure
[.1] Refuse

Question Q15tv
Do you have cable television?

[76.9] Yes
[22.4] No

[.4] Don't know
[.3] Refuse

Question Q15tv2
Have you ever watched the "THE FLOOD CHANNEL" on Cable channels 2 or 4?

[38.1] Yes
[61] No
[.9] Not Sure
Refuse

Question Q15tv4
What do you remember most from watching the program?

[INTERVIEWER: DO NOT READ RESPONSES - USE FOR CODING ONLY & SELECT ALL THAY APPLY]

[48.3] The dangers of flash flooding
[10.7] Time of year flooding occurs
[43.4] Safety precautions that can be taken
[15.6] Where to learn more about flooding
[12.7] Ways flooding is controlled
[2.4] Availability of flood insurance
[4.4] How to protect the environment
[13.1] Other
[21.5] Not Sure
Refuse

Question Q15tv5
Can you identify the specific themes of any Flood Channel Programs that you have watched? This would be an entire program devoted to a single topic.

INTERVIEWER: IF YES RECORD OPEN ENDED RESPONSE IN THE BOX
[18.5] Yes
[70.7] No
[10.7] Not Sure
Refuse

Question QBILLBOARD1
Are you aware of the Flood Safety License Plate Billboard Contest?

[31.1] Yes
[68.1] No
[.8] Not Sure

Question Qbillboard2

Do you think that the billboard campaign contest is an effective way to communicate flood safety to the community?

INTERVIEWER READ RESPONSES EXCEPT DK/REFUSE

Would you say. . .

[43] Yes, very effective
[43.9] Yes, somewhat effective
[5.3] No, somewhat ineffective
[5.3] No, very ineffective
[2.6] Not Sure
Refuse

Question Q16DEM1
I just have a couple more questions for statistical purposes only.

[INTERVIEWER: TYPE IN "999" FOR REFUSE

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

Question Q16dem2
What is the highest level of education that you have completed?

[5.3] Less than HS graduate
[26] HS graduate
[21.6] Some college/trade school
[14.7] Two year college
[17.9] Four year college
[2.4] Post graduate work
[10.9] Post graduate degree
[.1] Don't know
[1.1] Refuse

Question QEnd
Thank respondent for their time and wish them a nice day.

Addendum 4

Spanish Survey Instrument

Question SINTRO
Hola, mi nombre es [SU NOMBRE] estoy llamando de Universidad de Las Vegas. Estamos hacienda un corte estudio de parte del Departamento del condado de Clark una agencia pública. No estamos vendiendo nada o pregunto por ningun
a donación. Todas sus respuestas son confidenciales, y sus respuestas son muy importantes para este estudio.

Por favor puede hablar con un residente del condado Clark y ha celebrado su cumpleaños mas reciente? Las preguntas toman como cinco o siete minutos

[Si el/la respondiente pregunta, el nombre de la agencia se dirá al final de la encuesta.]

[El tópico de la encuesta es "Riesgos Del Tiempo" no puedes dar mas información.]

Question SGENDER
Entrevistor: No pregunte-anote sexo sobre tono de voz

Varón
Hembra

Question SQAZIP
Cual es su zona postal?

INTERVIEWER: PONGA "9999" si no tiene respuesta

Question QSB
Cuanto tiempo tiene viviendo en el sur de Nevada?

Menos de 6 meses
1 ano o más pero menos de 3 anos
3 anos o más pero menos de 6 anos
6 -10 anos
Mas de 10 anos
No se

Question QS1

Esta usted consciente de los peligros del clima que pueden ocurrir en su área?

Si
No
No Se
Negar la pregunta

Question SQ2UNAIDED
Que tipo de peligros del clima sabe usted que pueden ocurrir en su área?

[INTERVIEWER: DO NOT READ THE CATEGORIES
USE FOR CODING PURPOSES ONLY!]

Inundación
Tormenta de polvo / vientos Fuertes
Lluvia / Tormenta
Calor
Fuego / Relámpagos
Terremotos
No puede especificar
Otro

Question SQ2AIDED
Esta consciente que inundaciones pueden ocurrir?

Si
No
No Se
Negar la pregunta

Question SQ3KNOW
Ahora, voy ha leer unas declaraciones y quiero saber si usted-"esta de acuerdo" "mas o menos", " no esta de acuerdo", "mas o menos no esta de acuerdo", "No se",
"Negar la pregunta", con cada uno.

YO SE…

De los peligros de inundaciones
Mas o menos el tiempo del ano que inundaciones ocurren
De las precauciones de seguridad racionad a inundaciones
De los recursos adonde puedo aprender de inundaciones
Como aprender deferente maneras de controlar inundaciones en el área
Del seguro para inundación disponible

Question SQ4SOUR
De la lista que voy a leer por favor diga "SI" o "NO" si ha aprendido de inundaciones por estos recursos.

Folleto
Cartelera
Television
Radio
Periodico
La revista "Bienvenidos A su Casa"
Internet del Condado de Clark para inundaciones
Familia o amigos

Question SQ5KID
¿Usted tiene niños en escuela primaria?

[INTERVIEWER: Guardería hasta quinto grado]

Si
No
Negar la pregunta

Question SQ5KID2
Sus hijos que van a la escuela trajieron información sobre inundaciones a la casa en el ultimo ano?

Si
No
No Se
Negar la pregunta

Question SQ5KID3
La han hablado sus hijos de precauciones de seguro que pueden tomar para inundación que aprendieron en la escuela?

Si
No
No Se
Negar la pregunta

Question SQZONE1
Vive usted en una zona de inundación

Si
No
No se

Negar la pregunta

Question SQZONE2
Tiene usted seguro de inundación?

Si
No
No se
Negar la pregunta

Question SQZONE3
Seguro de inundación es aparte de seguro para su residencia y cobre destrozos de inundación por eventos relacionados a clima. Tiene usted esta polise?

Si
No
No se
Negar la pregunta

Question SQ6INSUR
For each of the following statements about flood insurance, please tell me if statement is true or false?

Seguro de inundación esta disponible para todos.

Verdad
Falso
No Se

Seguro de inundación es solo disponible para los que viven en zonas a donde ocurren inundaciones.

Verdad
Falso
No Se

Si no vives en una zona de inundaciones, no puedes comprar seguro de inundaciones.

Verdad
Falso
No Se

Seguro de inundación cuesta lo mismo sin tener en cuenta si la residencia esta o no esta en una zona de inundación.

Verdad
Falso
No Se

Si vive usted en una zona de inundación tiene que comprar el seguro de inundación.

Verdad
Falso
No Se

Question SQ7FLST

ENTREVISTADOR: LEE LO SIGUIENTE PALABRA POR PALABRA
[En estas dos preguntas, una calle se considera inundada cuando el agua cubre la calle desde esquina a esquina y no se ve la acera.]

Alguna vez encontró una calle inundada con agua como el conductor o pasajero de un vehiculo cuando en la calle?

Si
No
No Se
Negar la pregunta

Question SQ7FLST2
Se puede acordar de la última vez que esta calle inundada de agua cual de estas declaraciones describe lo que usted o el conductor ha hecho?

[INTERVIEWER: ONLY READ THE FIRST FOUR "RED' CHOICES]

Se dio vuelta y se fue por otra calle
Espero que el agua se bajo y después manejo a través de la calle.
Manejo bien a través de la calle
Manejo a través la calle y se quedo parado por el agua
No me acuerdo
Otro
Negar la pregunta

Question SQFLST3
Por que manejo por la calle inundada de agua?

[INTERVIEWER: DO NOT READ RESPONSES, USE FOR CODING ONLY]

Estaba de prisa
No pensaba que fuera peligroso

Pensaba que fuera algo divertido para hacer
No supe que era mejor
No se
Otro
Negar la pregunta

Question SQ8FC
Voy ha leer unas declaraciones por favor diga cual es verdad?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

Calles son parte del sistema de control para inundación
Calles NO son parte del sistema de control para inundación
No se
Negar la pregunta

Question SQ9RW
Cual de estas declaraciones son verdad?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

Alguna agua del urbano derrame y lluvia camina por el sistema de control de inundación y se desagua en el lago Mead
Toda el agua del urbano derrame y lluvia camina por el sistema de control de inundación y se desagua en el lago Mead.
No se
Negar la pregunta

Question SQ9URBAN1
Cual de estas declaraciones son verdad?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

El agua del urbano derrame y lluvia va por el sistema de control para inundación es tratado.
El agua del urbano derrame y lluvia va por el sistema de control para inundación no es tratado.
No Se
Negar la pregunta

Question SQRW3
Ha cambiado su comportamiento para proteger el medio ambiento o Lago Mead?

Si
No

No Se
Negar la pregunta

Question SQ9RW4
Que ha hecho usted como un resultado?
[INTERVIEWER: DO NOT READ CATEGORIES USE FOR CODING ONLY]

Propiamente dispone de químicos
Propiamente dispone de basura
Propiamente dispone de aceite
Propiamente dispone de basura de animales
Usar lavado público de autos
Reportar desagües de lluvia que están obstruidos
Uso de productos verdes
bolsos de la reutilización
Compuesto
No piede decir
Otra

Question SQ10BEH
Si usted supiera que hacer, fuera dispuesto a cambiar sus maneras para mejorar la calidad del agua?

Si
No
No Se
Negar la pregunta

Question SQ11INFO
Usted quisiera saber mas de cómo puede ayudar para mantener el ambiente?

Si
No
No Se
Negar la pregunta

Question SQ11INFO2
Adonde quisiera ir usted para información de cómo mantener el ambiente limpio?

Question SQ13RATE
Como usted vive en el sur de Nevada, piensa que la manera que controlan la inundación se ha mejorado, esta peor, o se ha quedado igual?

Mejor
Peor

Quedada igual
No se
Negar la pregunta

Question SQ14RATE
Sobre todo, como piensa que han manejado el sistema de inundación en el sur de Nevada?

Excelente
Bien
Igual
Mal
No se
Negar la pregunta

Question SQ15TV
Tiene cable en su televisión? Esto NO incluye antena o satélite para la televisión.

Si
No
No se
Negar la pregunta

Question SQ15TV2
Alguna vez ha mirado en canal de "El Canal De Inundación" en canales de cable 2 o 4?

Si
No
No Se
Negar la pregunta

Question SQ15TV4
De que se recuerda mas mirando el programa?

[INTERVIEWER: DO NOT READ RESPONSES - USE FOR CODING ONLY & SELECT ALL THAY APPLY]

Los peligros de la inundación
Los tiempos del ano que ocurre inundaciones
Las precauciones de seguro que pueden tomar
Adonde ir para aprender de inundación
Maneras que controlan inundaciones
Como proteger el ambiente
Otro
No se

Negar la pregunta

Question SQ15TV5
Puede identificar específicamente temas de cualquier programa del canal de inundación que avisto? Esto fuera un programa entero a un solo tópico.

INTERVIEWER: IF YES RECORD OPEN ENDED RESPONSE IN THE BOX

Si
No
No Se
Negal la pregunta

Question SSEEBILLBOARD
Has visto la campaña de la licencia de inundaciones que se está publicando?

Si
No
No Se
Negar la pregunta

Question SQBILLBOARD2
Usted cree que la campaña que se esta publicando, a trabes de la cartelera, es una forma efectiva para comunicar con la comunidad lo importante que es saber como estar protegido(a) de inundaciones?

ENTREVISTADOR LEE ESTAS RESPUESTAS EXCEPTO "NO SE/NEGAR LA PREGUNTA"

Usted diría…

Si, muy efectivo
Si, un poco efectivo
No, un poco efectivo
No, muy efectivo
No se
Negar la pregunta

Question SQ16DEM1
Tengo dos mas preguntas por razones del estudio.

[INTERVIEWER: TYPE IN "999" FOR REFUSE]
Por favor me dice que ano nació usted?

Question SQ16DEM2

Cual es en nivel de educación que ha cumplido?
Parte de la escuela secundaria
Todos los estudios de la escuela secundaria
Algunos Estudios Universitarios/Técnicos
Dos anos de Universidad
Cuatro anos de Universidad
Trabajo de postgraduado
Titulo de postgraduado
No se
Negar la pregunta

Question QEnd
Thank respondent for their time and wish them a nice day.
Muchas gracias por contestar las preguntas para el estudio y tenga buen día.

Question SINTRO
Hola, mi nombre es [SU NOMBRE] estoy llamando de Universidad de Las Vegas. Estamos hacienda un corte estudio de parte del Departamento del condado de Clark una agencia pública. No estamos vendiendo nada o pregunto por ninguna donación. Todas sus respuestas son confidenciales, y sus respuestas son muy importantes para este estudio.

Por favor puede hablar con un residente del condado Clark y ha celebrado su cumpleaños mas reciente? Las preguntas toman como cinco o siete minutos

[Si el/la respondiente pregunta, el nombre de la agencia se dirá al final de la encuesta.]

[El tópico de la encuesta es "Riesgos Del Tiempo" no puedes dar mas información.]

Question SGENDER
Entrevistor: No pregunte-anote sexo sobre tono de voz

Varón
Hembra

Question SQAZIP
Cual es su zona postal?

INTERVIEWER: PONGA "9999" si no tiene respuesta

Question QSB
Cuanto tiempo tiene viviendo en el sur de Nevada?

Menos de 6 meses
1 ano o más pero menos de 3 anos
3 anos o más pero menos de 6 anos
6 -10 anos
Mas de 10 anos
No se

Question QS1
Esta usted consciente de los peligros del clima que pueden ocurrir en su área?

Si
No
No Se
Negar la pregunta

Question SQ2UNAIDED
Que tipo de peligros del clima sabe usted que pueden ocurrir en su área?

[INTERVIEWER: DO NOT READ THE CATEGORIES
USE FOR CODING PURPOSES ONLY!]

Inundación
Tormenta de polvo / vientos Fuertes
Lluvia / Tormenta
Calor
Fuego / Relámpagos
Terremotos
No puede especificar
Otro

Question SQ2AIDED
Esta consciente que inundaciones pueden ocurrir?

Si
No
No Se
Negar la pregunta

Question SQ3KNOW
Ahora, voy ha leer unas declaraciones y quiero saber si usted-"esta de acuerdo" "mas o menos", " no esta de acuerdo", "mas o menos no esta de acuerdo", "No se",
"Negar la pregunta", con cada uno.

YO SE…

De los peligros de inundaciones
Mas o menos el tiempo del ano que inundaciones ocurren
De las precauciones de seguridad racionad a inundaciones
De los recursos adonde puedo aprender de inundaciones
Como aprender deferente maneras de controlar inundaciones en el área
Del seguro para inundación disponible

Question SQ4SOUR
De la lista que voy a leer por favor diga "SI" o "NO" si ha aprendido de inundaciones por estos recursos.

Folleto
Cartelera
Television
Radio
Periodico
La revista "Bienvenidos A su Casa"
Internet del Condado de Clark para inundaciones
Familia o amigos

Question SQ5KID
¿Usted tiene niños en escuela primaria?

[INTERVIEWER: Guardería hasta quinto grado]

Si
No
Negar la pregunta

Question SQ5KID2
Sus hijos que van a la escuela trajieron información sobre inundaciones a la casa en el ultimo ano?

Si
No
No Se
Negar la pregunta

Question SQ5KID3
La han hablado sus hijos de precauciones de seguro que pueden tomar para inundación que aprendieron en la escuela?

Si
No
No Se
Negar la pregunta

Question SQZONE1
Vive usted en una zona de inundación

Si
No
No se
Negar la pregunta

Question SQZONE2
Tiene usted seguro de inundación?

Si
No
No se
Negar la pregunta

Question SQZONE3
Seguro de inundación es aparte de seguro para su residencia y cobre destrozos de inundación por eventos relacionados a clima. Tiene usted esta polise?

Si
No
No se
Negar la pregunta

Question SQ6INSUR
For each of the following statements about flood insurance, please tell me if statement is true or false?

Seguro de inundación esta disponible para todos.

Verdad
Falso
No Se

Seguro de inundación es solo disponible para los que viven en zonas a donde ocurren inundaciones.

Verdad
Falso
No Se

Si no vives en una zona de inundaciones, no puedes comprar seguro de inundaciones.

Verdad
Falso
No Se

Seguro de inundación cuesta lo mismo sin tener en cuenta si la residencia esta o no esta en una zona de inundación.

Verdad
Falso
No Se

Si vive usted en una zona de inundación tiene que comprar el seguro de inundación.

Verdad
Falso
No Se

Question SQ7FLST

ENTREVISTADOR: LEE LO SIGUIENTE PALABRA POR PALABRA
[En estas dos preguntas, una calle se considera inundada cuando el agua cubre la calle desde esquina a esquina y no se ve la acera.]

Alguna vez encontró una calle inundada con agua como el conductor o pasajero de un vehiculo cuando en la calle?

Si
No
No Se
Negar la pregunta

Question SQ7FLST2
Se puede acordar de la última vez que esta calle inundada de agua cual de estas declaraciones describe lo que usted o el conductor ha hecho?

[INTERVIEWER: ONLY READ THE FIRST FOUR "RED' CHOICES]

Se dio vuelta y se fue por otra calle
Espero que el agua se bajo y después manejo a través de la calle.
Manejo bien a través de la calle
Manejo a través la calle y se quedo parado por el agua

No me acuerdo
Otro
Negar la pregunta

Question SQFLST3
Por que manejo por la calle inundada de agua?

[INTERVIEWER: DO NOT READ RESPONSES, USE FOR CODING ONLY]

Estaba de prisa
No pensaba que fuera peligroso
Pensaba que fuera algo divertido para hacer
No supe que era mejor
No se
Otro
Negar la pregunta

Question SQ8FC
Voy ha leer unas declaraciones por favor diga cual es verdad?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

Calles son parte del sistema de control para inundación
Calles NO son parte del sistema de control para inundación
No se
Negar la pregunta

Question SQ9RW
Cual de estas declaraciones son verdad?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

Alguna agua del urbano derrame y lluvia camina por el sistema de control de inundación y se desagua en el lago Mead
Toda el agua del urbano derrame y lluvia camina por el sistema de control de inundación y se desagua en el lago Mead.
No se
Negar la pregunta

Question SQ9URBAN1
Cual de estas declaraciones son verdad?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

El agua del urbano derrame y lluvia va por el sistema de control para inundación es tratado.

El agua del urbano derrame y lluvia va por el sistema de control para inundación no es tratado.
No Se
Negar la pregunta

Question SQRW3
Ha cambiado su comportamiento para proteger el medio ambiento o Lago Mead?

Si
No
No Se
Negar la pregunta

Question SQ9RW4
Que ha hecho usted como un resultado?
[INTERVIEWER: DO NOT READ CATEGORIES USE FOR CODING ONLY]

Propiamente dispone de químicos
Propiamente dispone de basura
Propiamente dispone de aceite
Propiamente dispone de basura de animales
Usar lavado público de autos
Reportar desagües de lluvia que están obstruidos
Uso de productos verdes
bolsos de la reutilización
Compuesto
No piede decir
Otra

Question SQ10BEH
Si usted supiera que hacer, fuera dispuesto a cambiar sus maneras para mejorar la calidad del agua?

Si
No
No Se
Negar la pregunta

Question SQ11INFO
Usted quisiera saber mas de cómo puede ayudar para mantener el ambiente?

Si
No
No Se
Negar la pregunta

Question SQ11INFO2
Adonde quisiera ir usted para información de cómo mantener el ambiente limpio?

Question SQ13RATE
Como usted vive en el sur de Nevada, piensa que la manera que controlan la inundación se ha mejorado, esta peor, o se ha quedado igual?

Mejor
Peor
Quedada igual
No se
Negar la pregunta

Question SQ14RATE
Sobre todo, como piensa que han manejado el sistema de inundación en el sur de Nevada?

Excelente
Bien
Igual
Mal
No se
Negar la pregunta

Question SQ15TV
Tiene cable en su televisión? Esto NO incluye antena o satélite para la televisión.

Si
No
No se
Negar la pregunta

Question SQ15TV2
Alguna vez ha mirado en canal de "El Canal De Inundación" en canales de cable 2 o 4?

Si
No
No Se
Negar la pregunta

Question SQ15TV4
De que se recuerda mas mirando el programa?

[INTERVIEWER: DO NOT READ RESPONSES - USE FOR CODING ONLY & SELECT ALL THAY APPLY]

Los peligros de la inundación
Los tiempos del ano que ocurre inundaciones
Las precauciones de seguro que pueden tomar
Adonde ir para aprender de inundación
Maneras que controlan inundaciones
Como proteger el ambiente
Otro
No se
Negar la pregunta

Question SQ15TV5
Puede identificar específicamente temas de cualquier programa del canal de inundación que avisto? Esto fuera un programa entero a un solo tópico.

INTERVIEWER: IF YES RECORD OPEN ENDED RESPONSE IN THE BOX

Si
No
No Se
Negal la pregunta

Question SSEEBILLBOARD
Has visto la campaña de la licencia de inundaciones que se está publicando?

Si
No
No Se
Negar la pregunta

Question SQBILLBOARD2
Usted cree que la campaña que se esta publicando, a trabes de la cartelera, es una forma efectiva para comunicar con la comunidad lo importante que es saber como estar protegido(a) de inundaciones?

ENTREVISTADOR LEE ESTAS RESPUESTAS EXCEPTO "NO SE/NEGAR LA PREGUNTA"

Usted diría…

Si, muy efectivo
Si, un poco efectivo
No, un poco efectivo
No, muy efectivo

No se
Negar la pregunta

Question SQ16DEM1
Tengo dos mas preguntas por razones del estudio.

[INTERVIEWER: TYPE IN "999" FOR REFUSE]
Por favor me dice que ano nació usted?

Question SQ16DEM2
Cual es en nivel de educación que ha cumplido?

Parte de la escuela secundaria
Todos los estudios de la escuela secundaria
Algunos Estudios Universitarios/Técnicos
Dos anos de Universidad
Cuatro anos de Universidad
Trabajo de postgraduado
Titulo de postgraduado
No se
Negar la pregunta

Question QEnd
Thank respondent for their time and wish them a nice day.
Muchas gracias por contestar las preguntas para el estudio y tenga buen día.

AREA OF CLARK COUNTY RESPONDENTS RESIDE IN

Southeast – 38%
Northwest – 27%
Northeast – 15%
Southwest – 16%
Outlying – 3%

Includes Mesquite, Boulder City and Logandale.

Knowledge Of Stormwater And Urban Runoff

Respondents were asked whether they think that "all" or "some" of the urban runoff that travels through the flood control system drains into Lake Mead." Thirty-six percent (36%) of respondents correctly responded "all". Respondents were also asked whether they thought that "the urban runoff and rainwater that travels through the flood control system is "treated" or "untreated". Forty-six percent (46%) correctly answered the question. In addition, when asked whether streets "are" or "are not" part of the flood control system. Fifty-seven percent (57%) knew that they are. These respondents were asked if they had made a behavior change as a result of having this knowledge.

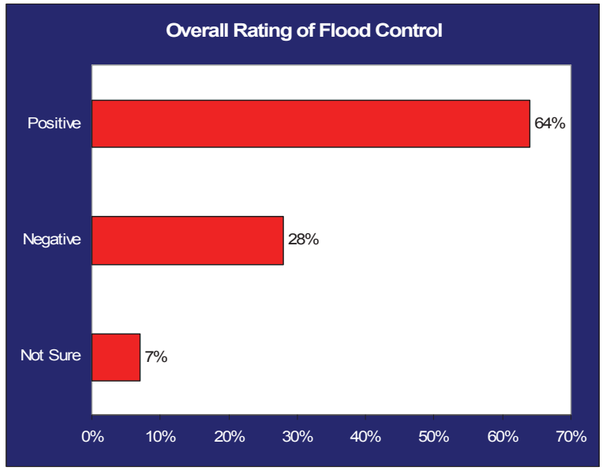
Behavior Changes to Help Protect the Environment & Lake Mead

Respondents were asked if they had changed a behavior to help protect the environment and Lake Mead. Fifty-six percent (56%) indicated that they had made a behavior change. While proper disposal of waste continues as a main behavior change, this year water conservation was the number one behavior change mentioned. The table below shows the most mentioned items.

Rank	Behavior Change	Frequency	Percent
1	Water Conservation	108	28%
2	Proper disposal of general waste	104	27%
3	Proper disposal of oil	85	22%
4	Proper disposal of chemicals	77	20%
5	Reuse bags	50	13%

Overall Flood Control Rating

The overall rating of flood control remains consistently positive. Overall 64% of respondents positively rate the way that flood control is being handled in Southern Nevada.



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 during the month of October every year since 1999.

The 2008 survey was administered to 701 randomly selected residents of Clark County by UNLV's Cannon Survey Center. The margin of error for the study is + / - 3.7%. The core of the study remained the same and longitudinal comparisons have been conducted. Seven percent of the surveys were conducted in Spanish. The survey collected data on the following topics:

- Awareness of flash flooding in the Clark County.
- General knowledge of various subjects related to flash flooding.
- Sources of flash flooding education and information.
- Behavior and tendencies when encountering a flooded street or road in the Clark County
- Knowledge of availability and other flood insurance issues
- Demographic profile of respondents who have watched The Flood Channel
- Knowledge of urban runoff and assessment of behavior changes.
- Opinion of how well flood control is being handled in the Clark County.
- Behavior changes willing to make to help protect the environment and Lake Mead
- Effectiveness of the Flood Safety License Plate Billboard campaign

REGIONAL FLOOD CONTROL DISTRICT

CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

2008 FLOOD AWARENESS SURVEY SUMMARY SHEET

Characteristics of the Sample

As in previous administrations of the survey, five demographic variables were used to create the sub-sets for data analysis. They are "area of Clark County respondent resides in," "length of time in Clark County," "age," "level of education" and "gender." According to the Nevada State Demographer the total population of Clark County is in excess of 2 million.

LENGTH OF TIME LIVING IN CLARK COUNTY
1% Less than 6 months
2% 6 months to less than 1 year
10% 1 year to less than 3 years
16% 3 years to less than 6 years
18% 6 years to less than 10 years
53% More than 10 years

AGE OF RESPONDENT
6% 18 – 24 years old
32% 25 – 44 years old
37% 45 – 64 years old
25% 65+ years old

GENDER
37% Male
63% Female

EDUCATION
5% Less than high school
24% High school graduate
21% Some college no degree
13% Two year college degree
18% Four year college degree
6% Some post graduate work
12% Graduate/professional degree

Knowledge of Various Subjects Relating to Flash Flooding

Flood Related Issue	% Agree 2008	% Agree 2007	% Agree 2006
I know about the dangers of flash flooding	98%	97%	95%
I know about the time of year flash flooding is most likely to occur in the area	88%	84%	81%
I know about safety precautions relating to flash flooding	93%	89%	87%
I know about the resources available to learn more about flash flooding	67%	63%	56%
I know ways in which flooding is being controlled in the area	79%	79%	73%
I know about the availability of flood insurance	85%	77%	74%

FUTURE STEPS

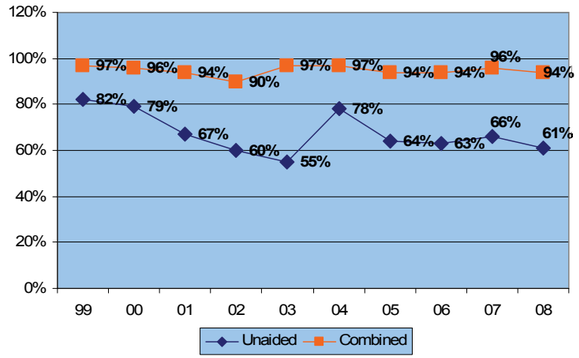
- The data continues to indicate that there is a high level of awareness among residents of Clark County regarding the dangers of flash flooding. Overall, 94% of respondents are aware that flash flooding can occur in the area. The data suggests that the District's educational messaging regarding flash flooding does increase awareness; this is substantiated by the consistently high percentage of respondents who indicated awareness or such
- One constant has been the significant importance of television in conveying flood safety information. Rain in the desert brings strong news coverage. Continued outreach and education efforts using this news medium are warranted and based on survey trends since 1999.
- When looking at the respondents' knowledge of flood insurance the data suggests that there is still confusion on the topic and continued emphasis should be placed in this area. The data does suggest however, that residents in Clark County are aware that flood insurance is available to everyone, not just those who live in a flood zone and that the cost of flood insurance is dependent of whether or not you reside in a flood zone. In both instances more than half of the respondents answered correctly.
- The Hispanic population in the Las Vegas Valley is expected to exceed 600,000 in 2009[1]. This represents 28% of the population of Clark County. It is important to continue providing public information to this population. In doing so, the Hispanic population is best reached via television. The survey shows that 94% of those interviewed learned about flash flooding from television. The District's efforts to reach this population were very successful and should be continued.

1 Source: Nevada State Demographer

AWARENESS OF FLOODING IN CLARK COUNTY

When looking at the total number of respondents in both the unaided/unprompted ("What types of weather related natural dangers are you aware of that occur in Clark County?"), and prompted/aided questions ("Are you aware that flash flooding can occur here in Clark County?"), 94% of the sample was aware of flooding as a weather related natural danger. The chart below displays the data collected from 1999 to 2008 relating to flood awareness among Clark County residents.

Flood Awareness Yearly Comparision 1999-2008 among Clark County Residents



Program Recall of Responsdents Who Have Watched the Flood Channel

Seventy-three percent of respondents indicated that they have cable television (excluding DISH or satellite TV). Of these, 39% have watched 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?"

Item	% 2008	% 2007	% 2006
Dangers of flash flooding	45%	48%	40%
Safety precautions	31%	43%	29%
Unable to specify	18%	21%	29%
Where to learn more about flooding	7%	16%	4%
Ways floods are controlled	10%	13%	14%
Other[1]	18%	13%	9%
Time of year flooding occurs	12%	11%	3%
How to protect the environment	5%	4%	N/A
Availability of flood insurance	4%	2%	2%

The district's efforts to reach the Hispanic population were very successful. The table below shows the responses in this population from 2006 to 2008.

Hispanic Flood Related Issue	% 2008	% 2007	% 2006
I know about the dangers of flash flooding	98%	95%	78%
I know about the time of year flash flooding is most likely to occur in the area	96%	81%	49%
I know about safety precautions relating to flash flooding	86%	88%	42%
I know about the resources available to learn more about flash flooding	70%	44%	22%
I know ways in which flooding is being controlled in the area.	67%	70%	19%
I know about the availability of flood insurance	93%	68%	36%

FUTURE STEPS

- Clark County continues to be among the fastest growing areas in the United States. Issues related to population growth should continue to be given consideration when planning ongoing public education. Emphasis should be put on reaching the newcomers to the area and residents between the ages of 18 and 24.
- The Flood Channel should continue to include information and education about flash flooding, awareness of when the flood season is, flood insurance issues, and precautions to take when encountering a flooded street or road. In addition, the data shows that emphasis should be placed on "resources available to learn more about flooding". The data also indicates that continued emphasis should be put on ways that individuals can help protect the environment and Lake Mead. Of particular interest this year is the 28% who indicated that they are conserving water, the 13% who are reusing bags, and 9% who are using green products. Nobody had reported doing so in 2007. This is a direct response to the District and other agencies public education efforts. Sixty-nine percent of respondents indicated that they would like to know more about how to keep the environment clean, 56% have already made a behavior change to help improve the environment and Lake Mead. Further, 54% want to obtain information on how to keep the environment clean via the Internet and 25% prefer direct mail.
- The District's Flood Safety License Plate Billboard Campaign continues to be an effective way to communicate flood safety to the community. Eighty-seven percent (87%) reported that the campaign is effective. This campaign should be continued with the Hispanic community where the overall effectiveness was lower at 67%.

BEHAVIOR WHEN ENCOUNTERING A FLOODED STREET

Of those respondents who had encountered a flooded street in Clark County 67% made a good or appropriate choice; they either "turned back and took an alternate route" or "waited for the water to go down and then drove through it." This percentage is similar to the 68% who made an appropriate choice in 2007. The main reason respondents made a poor choice is because they "didn't think it was unsafe to do so" cited by more than half of those who made a poor choice when encountering a flooded street.

Sources Of Flash Flooding Education And 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 represents the responses in order. Television continues as the top source of information about flash flooding.

Rank	Source	% 2008	% 2007	% 2006
1	Television	90%	90%	87%
2	Newspaper	58%	60%	60%
3	Radio	57%	60%	56%
4	Friends / Relatives	56%	54%	59%
5	Billboards	53%	51%	46%
6	Brochure	26%	21%	24%
7	CCRFCD Website	20%	20%	19%
8	Welcome Home Magazine	5%	6%	8%

Flood Safety License Plate billboard Campaign

All respondents were asked a series of questions on issues regarding flood insurance. The table below shows the percentage of respondents who answered the question correctly.