

Water Issues in the Southwest

A 37-question survey was developed by the USDA-CSREES Southwest States and Pacific Islands Regional Water Quality Program Team to document public awareness, aptitudes, attitudes, and actions toward water quality in the Southwest states, Arizona, California, and Nevada. Although the same survey was also used in Hawaii, results will be summarized in a separate report. Demographic data about survey respondents was also collected. This statistically designed survey was completed by 1601 residents in the three-state area from August of 2003 to July 2004. The collected data was analyzed using the SAS procedure at the University of Idaho. The sampling error of these survey questions was ± 5 percent.

How Do You Feel About the Environment?

Survey respondents rated the importance of eleven water issues (Table 1). Clean drinking water appears to be the most important issue in the Southwest – 81% or more of respondents in each of the three states ranked the issue as extremely important, while 99% of the respondents ranked clean drinking water as either extremely or very important. Over 80% of respondents considered the following water issues as either extremely or very important: 1) clean drinking water, 2) water for household/private sector, 3) clean groundwater, 4) clean rivers, and 5) water for agriculture.

Table 1. The importance of water issues in the Southwest and by state.

Issue	Importance			
	Extremely or Very Important in the Southwest	Extremely or Very Important in AZ	Extremely or Very Important in CA	Extremely or Very Important in NV
	----- % (rank) -----			
Clean drinking water	99 (1)	99 (1)	99 (1)	99 (1)
Water for household/private sector	94 (2)	99 (2)	92 (4)	96 (2)
Clean groundwater	93 (3)	96 (3)	93 (2)	90 (4)
Clean rivers	92 (4)	90 (4)	93 (3)	92 (3)
Water for agriculture	84 (5)	84 (5)	85 (5)	83 (5)
Watershed restoration	73 (6)	72 (7)	73 (6)	72 (7)
Water for power generation	71 (7)	74 (6)	69 (8)	75 (6)
Destruction of wetlands (riparian areas)	67 (8)	64 (9)	69 (9)	64 (10)
Protection of aquatic organisms	66 (9)	59 (10)	70 (7)	64 (9)
Water for commerce/industry	66 (10)	70 (8)	64 (10)	69 (8)
Water for recreation	52 (11)	50 (11)	52 (11)	54 (11)

Water Issues

Reflective of how respondents rated various water issues, when asked to rank five water uses from most important to least important, respondents chose drinking/human use the clear choice for most important while recreation was the clear choice for least important. Other choices of irrigation, wildlife (fish, birds, wetlands), and power generation were all closely ranked in the middle.

One-fifth of the respondents (21%) feel that their home drinking water is not safe to drink (Table 2). Almost two-thirds of the respondents (63%) get their drinking water from a city water system, while 18% primarily use purchased bottled water.

Table 2. Response to the question: “Do you feel that your home drinking water is safe to drink?”

Response	Southwest	AZ	CA	NV
	-----%-----			
Yes	79	80	80	76
No	21	20	20	24

There exists a general lack of knowledge regarding potential pollutants. Over 40% of respondents in the region indicated they did not know if given pollutants affect the water quality in their area (Table 3). Respondents were most aware of minerals, with 49% indicating they know or suspect minerals to affect their water quality.

Table 3. Respondents that do not know if the listed conditions affect water quality in their area.

Pollutant	Southwest	AZ	CA	NV
	----- % answering “don’t know” -----			
High bacteria counts	53	58	52	48
Heavy metals (e.g., lead, arsenic)	50	59	49	39
Pesticides	49	58	45	52
Fertilizer/Nitrates	49	57	46	45
Minerals (e.g., calcium)	40	42	43	28

Not having enough water is considered a problem in the Southwest by 56% of respondents (sum of “probably” and “definitely”).

Governance

Almost one third of respondents (29%) feel that environmental protection receives about the right amount of emphasis from local government and elected officials while 41% feel it does not enough receive enough emphasis (Table 4). Almost three quarters of respondents (74%) believe local government, either state or county/city/town, as opposed to the federal government, should be responsible for protecting water quality (Table 5).

Table 4. Responses to the question: “In your opinion, does the environment receive the right amount of emphasis from local government and elected officials in your state?”

Response	Southwest	AZ	CA	NV
	----- % -----			
No, not enough emphasis	41	38	42	43
Yes, about right	29	31	29	29
No, too much emphasis	13	11	15	12
No opinion / don't know	17	21	15	16

Table 5. Responses to the question: “In your opinion, who should be most responsible for protecting water quality in your community?”

Response	Southwest	AZ	CA	NV
	----- % -----			
Federal government	12	12	12	14
State government	42	43	42	42
County, city, or town	32	34	32	27
Individual citizens	7	6	7	9
Don't know	3	2	3	4
Other	4	3	4	5

Water Quality Education

A majority of respondents have received water quality information via newspapers, television, and environmental agencies (Table 6).

Table 6. “Yes” responses to the question: “Have your received water quality information from the following sources?”

Information Source	Southwest	AZ	CA	NV
	----- % -----			
Newspaper	76	73	76	83
Television	66	67	63	79
Environmental agencies (government)	55	46	56	62
Environmental groups (citizen groups)	47	36	53	39
Consumer Confidence Reports	26	19	27	30
Universities	25	21	26	25
Schools (elementary & secondary)	17	11	19	18
Extension Service	15	16	12	21

A majority of respondents would like to learn more on the topic of drinking water and human health. Also high on the list is water conservation (Table 7). When given an option of how they would most likely take advantage of learning opportunities with

regard to water quality issues, most respondents would like to read printed fact sheets, bulletins, or brochures; or read a newspaper article/series or watch television coverage (Table 8).

Table 7. Response to the question: “Would you like to learn more about any of the following water quality issue areas? (Circle all that interest you.)”

Issue	Southwest	AZ	CA	NV
	----- % -----			
Drinking Water and Human Health	58	61	56	61
Water Conservation	39	44	36	44
Environmental Restoration	31	29	31	32
Pollution Assessment and Prevention	31	30	32	26
Watershed Management	31	26	32	33
Water Policy and Economics	30	27	31	30
Nutrients & Pesticide Management	25	21	28	20
Agricultural Water Management	21	16	24	14
Animal Manure and Waste Management	18	15	21	12

Table 8. Survey respondents learning opportunities of choice (select up to 3 items).

Opportunity	Southwest	AZ	CA	NV
	----- % -----			
Read printed fact sheets, bulletins, or brochures	59	57	59	60
Read a newspaper article or series, or watch TV coverage	55	60	54	54
Visit a website	43	40	44	42
Look at a demo or display	19	19	19	19
Watch a video of information	18	18	17	17
Take part in a onetime volunteer activity to learn or do something (e.g., water monitoring)	15	12	16	17
Attend a fair or festival	13	11	13	16
Ask for a home, farm, or workplace water assessment	8	8	7	8
Attend short course (weekend, evening)	7	4	7	10
Get trained for a regular volunteer position (e.g., watershed steward, or water quality monitor)	6	6	5	8
Take a course for credit/certification	6	4	5	9

Programming Priorities

Based on this survey, we have identified three important programming areas. These areas are:

- Drinking water and human health
- Water conservation
- Watershed management

Demographics

Examples of the demographics of this survey are:

- Community sizes of: >100,000, 25,000 – 100,000, 7,000 – 25,000, 3,500 – 7,000, and <3,500 represented 56, 25, 10, 5, and 5% of the respondents, respectively.
- Approximately 66% of the survey respondents were male, while 34% were female.
- The education levels of: elementary or some high school, high school graduate, some college, college graduate, or advanced college degree represented 3, 11, 31, 33, and 23% of the respondents, respectively.
- Over three quarters of the respondents (76%) have lived in their current state of residence for at least ten years.

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