

Perceptions of Water in the Valley

**What lessons can we
learn?**

**How do we think about
water?**

Environmental Perception Research by **Kelli.Larson@asu.edu**

Objectives are to further understanding of:

- Knowledge & views of resource management issues, especially among lay people & experts.
- Influence of visual information on understanding, specifically 3D presentations at Decision Theater on **groundwater overdraft** & **urban heat island**.



<http://dcdc.asu.edu/>

Research supported by Decision Center for a Desert City.



Perceptions: *Magnitude of Problems*

	<i>How big a problem?</i>				<i>How well handled?</i>			
	Min.	Max.	Average Response	% "DON'T KNOW"	Min.	Max.	Average Response	% "DON'T KNOW"
	SMALL...BIG				POORLY...WELL			
Water shortages	1	5	4.05	10%	1	5	2.52	23%
Urban heat island	1	5	3.68	29%	1	5	2.03	45%
Rising temperatures	1	5	3.51	7%	1	4	2.35	32%
Groundwater overdraft	1	5	3.49	43%	1	5	2.42	56%

NOTE: Data from web survey of **119 ASU students** in March-April 2005, prior to viewing experimental informational presentations.

Reported *Knowledge* of Issues

RESPONSE SCALE:

1 *NOT* KNOWLEDGEABLE...5 *VERY* KNOWLEDGEABLE

	Average	Ranking: From Least to Most
Water resources	3.00	4th
Cone of depression	1.64	1st
Groundwater overdraft	1.96	2nd
Climate/weather	3.39	6th
Global warming	3.08	5th
Urban heat island	2.41	3rd

NOTE: Data from web survey of **119 ASU students**,
3-4% of whom did not answer this particular question.

Perceived *Causes of Water Shortages*

How much does each <i>cause water shortages</i> in greater Phoenix region?	Min.	Max.	Average	Percent "Don't Know"
	(NOT).....A LOT			
Population growth	2	5	4.20	5%
Naturally occurring droughts	2	5	4.03	7%
Low levels of rainfall in Arizona desert	1	5	4.17	7%
Residents overuse of water in yards	1	5	3.68	7%
Poor planning and management of water	1	5	3.58	10%
Amount of water used for farming	1	5	2.92	14%

NOTE: Data from web survey of **119 ASU students**.

Perceived *Solutions to Water Shortages*

How <i>effective</i> is each for preventing water shortages in greater Phoenix region?	Min.	Max.	Average	Percent "Don't Know"
	(NOT).....VERY			
Investing in low water using technology	1	5	4.05	10%
Educating public about how to conserve water	2	5	3.82	6%
Finding new sources of water	1	5	3.56	5%
Restricting the use of water from wells	1	5	2.93	18%
Increasing the price of water	1	5	2.50	8%
Converting land from farms into houses	1	5	2.11	13%

NOTE: Data from web survey of 119 ASU students.

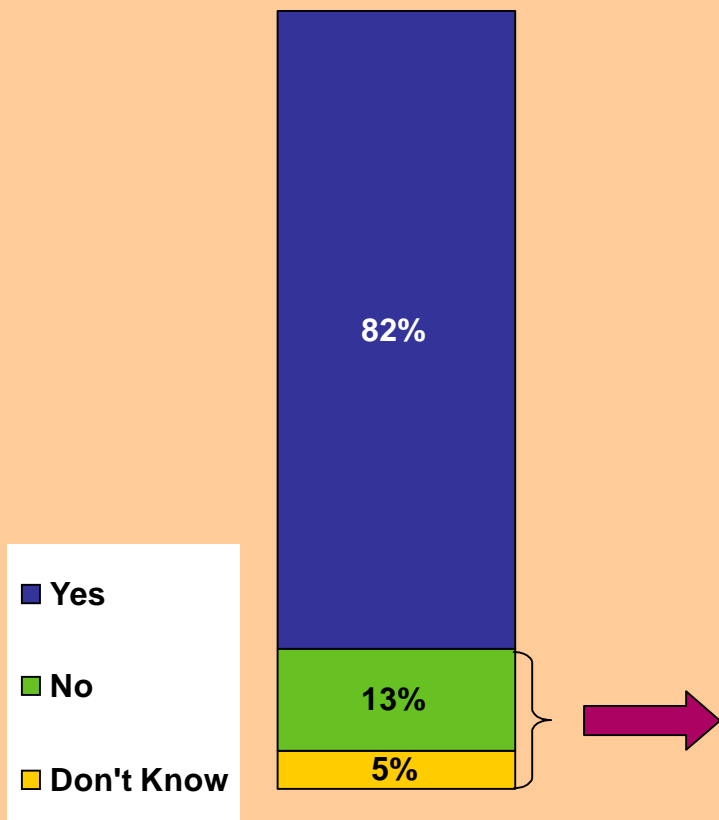
Public Perceptions of Drought in Arizona

Bruce Hallin
Manager Business Development and
Strategic Analysis
Water Group



Few believe Phoenix is not experiencing drought conditions; these residents cite the presence of water, lack of water restrictions, or recent rain as evidence

Is Phoenix Experiencing a Drought?



Why Say Phoenix Not Experiencing a Drought

- Everyone uses water. Everything is green.
- We have water.
- My water has always been on.
- We continue to take water out of the Colorado river. We still get water from the mountains.
- They haven't really pressured us like they have in California.
- It's a desert area and they have been conserving the water the right way here. It doesn't seem to be a problem.
- There's no restriction about it. I never heard about conserving water or to use a certain amount. We are not told that we are in a drought.
- We have man-made lakes. If they have enough water to fill those, they have enough for us; if they don't, they should not have made those lakes.
- We just had a bunch of rain.
- I think there's plenty of water and a lot of rain. I don't think that they are experiencing anything like that at this time.
- Was experiencing a drought, but then it rained. I don't think it is now.
- I see water.

Base Q27: H & P Total phone respondents Aug-Sept03 (200)

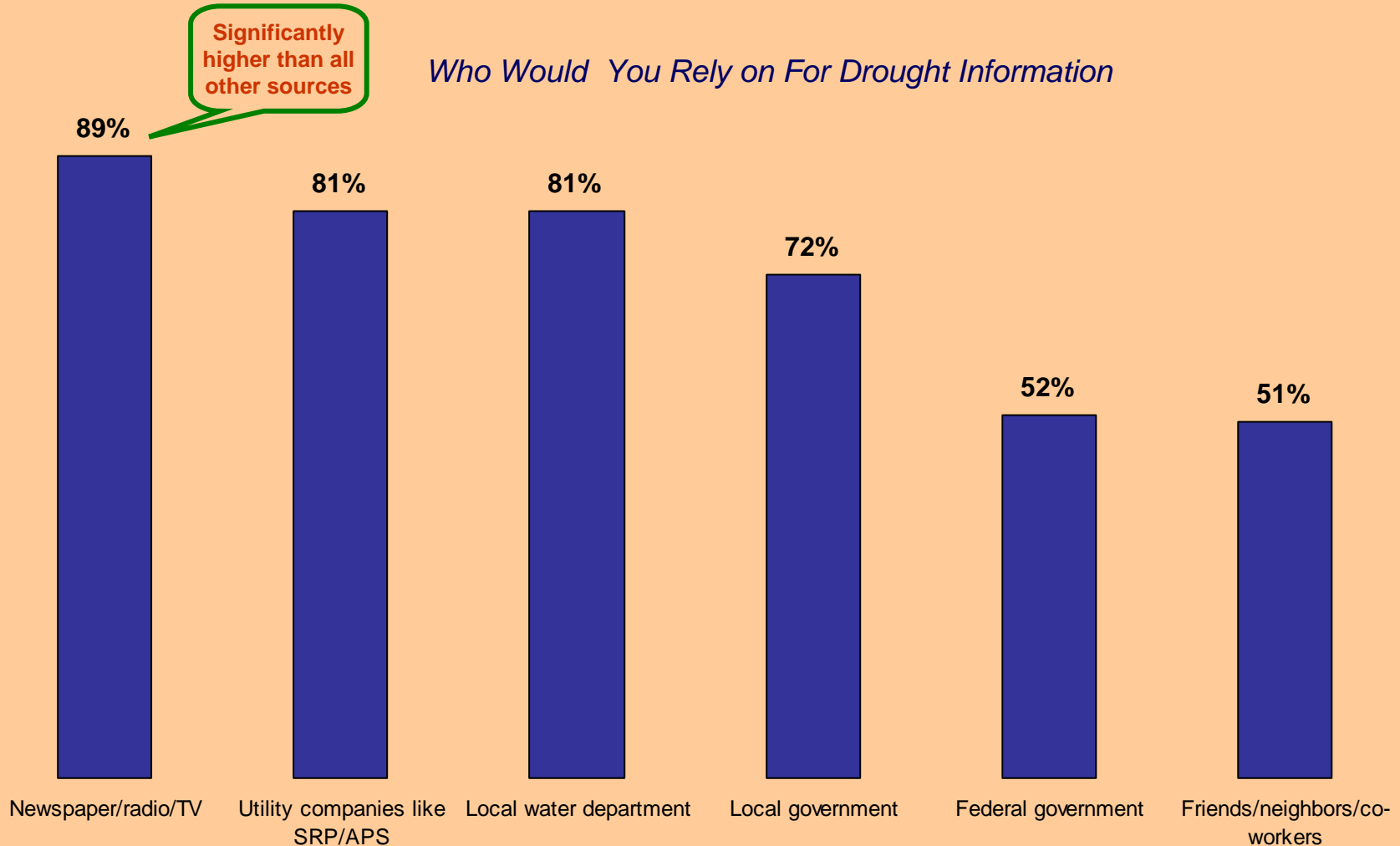
Q27: Do you think the Phoenix area is experiencing drought conditions or a lack of water?

Base Q27a: Answered 'no' at Q27 (26)

Q27a: Why do you say Phoenix is not experiencing a drought?

Traditional media sources and local experts are viewed as credible sources for drought information

Who Would You Rely on For Drought Information



Base: H & P Total phone respondents Aug-Sept03 (200)

Q30: If the Phoenix area was experiencing a drought, who would you trust and rely on to keep you up-to-date and provide information on the drought?

Almost three-quarters of Phoenicians claim to have changed their behavior as a result of the drought

Response to drought

- **Already taken steps – 71%**
- **Have not yet taken steps but plan to take steps in the future – 11%**
- **Are not planning to do anything at this time – 5%**
- **Have not thought about making any changes yet -9%**

Steps taken

- Encourage water conservation at home – 54%**
- Change landscaping – 35%**
- Purchase/install low water usage equipment in the home – 16%**
- Wash car less often – 8%**
- Minimal watering of lawn and landscaping – 7%**

Base : WestTrak phone respondents (387)

Q: Which of the following statements best describes how you have responded to the drought?

Q: What have you done?

Public Attitudes Towards Water Supply, Low Water Use Lifestyle, and Drought: Phoenix' Surveys

Ray Quay
Water Services Department
City of Phoenix

1999 Water Conservation Survey

Strong Support of Water Conservation Concept

- Importance of water conservation
 - 1 to 10 scale, Mean = 7.3 55% 8 to 10
- Should be way of life not just for water shortages
 - 92% agreed
- If do not conserve, there may be a water shortage
 - 83% agreed
- No water shortage in the Valley now or future
 - 68% disagreed
- Families must sacrifice too much to conserve
 - 75% disagreed

Ray Quay

Water Services Department

City of Phoenix

2003 Drought Survey Summary

High Awareness and Agreement about Drought

- Water Supply Is a Serious Issue?
 - 71% Agree serious issue now
 - 22% Agree if not now will be serious in the future
- Drought Conditions?
 - 67% Believe We Are In Drought Now
- Action to Require Reduced Water Use?
 - 93% Believe Water Use Reduction May Be Required
- Awareness of Drought Facts and Actions ?
 - 54% Have seen, heard, or read reports on drought

Ray Quay

Water Services Department

City of Phoenix

2003 Drought Survey Summary

Low Understanding of Drought vs Lifestyle

- What actions have you taken to respond to drought? (open ended question)
 - 64% said they had taken action, but actions more lifestyle than drought responses
 - 42% general overall reduction in use
 - 22% Reduced landscape watering
 - 5% No Winter Lawn
 - 2% Drained pool or did not add water
 - 2% Use of AC instead of swamp cooler
- 64% Important to stop new development

Ray Quay

Water Services Department

City of Phoenix

2003 Assessment

- Aware of Drought Conditions
- Aware Importance and Possible Need for Action
- Not Aware of Facts About Drought or Possible Future Conditions
- Low Awareness of Potential Impacts of Drought
- Not Aware of What Actions Needed Now

Public Attitude:

What Issues Need to Be Examined?

- The Message
 - Should the message be “What to do”, “Why do it”, or both?
 - What techniques effectively deliver a more complex message?
- Growth, Water Supply and Drought
 - What are the facts and how do we deliver this message?
- Motivation
 - What motivates people to adopt lifestyle beyond just the simple behavior changes (ie full load vs replace turf?)
- K-12 education
 - What is the long term impact on lifestyle?
- Drought Response vs Low Water Use Lifestyle
 - How do we articulate the difference?