Water Education Provider Survey Results

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Purpose of Survey: One objective of the education outreach component of Arizona State University's Decision Center for a Desert City (DCDC) is to determine what role we can play in enhancing the Water Education programs already serving the Greater Phoenix Area. To determine that role, in spring 2005 we developed a Water Education Provider Survey to identify water education providers (WEP), and to determine audiences, content, goals, and communication tools used by these local organizations.

Method

We identified WEPs from a variety of organizations including: cities/municipalities, non-profit organizations, museums, government agencies, and private industries.

Seventy-seven surveys were sent to these different organizations.

Survey questions were arranged in four categories: **Target Audience, Program Objectives, Communication Tools, and Program Overview**.

Face-to-face interviewees were asked questions in the same categories as well as questions regarding development and evaluation of their program, collaboration with other educators, and needed areas of improvement within their program

Response rate:
28.6% for individuals
41.7% for organizations

7 WEPs were asked to participate in face-to-face interviews for more in-depth information.

Table 1. Comparison between organizations receiving and completing water education survey by organization type.

	Identified		*Response Totals*	
	Individuals	*Organizations*	*Individuals*	*Organizations*
Water Providers	43	18	11	10
Non-Profit	16	15	9	8
Other Government	16	13	1	1
Private Industry	2	2	1	1
Total	**77**	**48**	**22**	**20**

Target Audience

•Most commonly identified geographic regions being served were within the larger cities/municipalities including Gilbert, Phoenix, and Tempe. Second most commonly identified regions were Apache Junction, Avondale, Carefree, Glendale, Goodyear, Mesa, Paradise Valley and The Salt River Watershed.
•For demographic characteristics, WEPs most commonly identified teachers as their targeted audiences, followed by students in grades K-6, grades 7-12, and then the public at large.

Table 2. Comparison between most and least frequently selected objectives

Most Frequent Selected Objectives	*Least Frequent Selected Objectives*
•Promoting outdoor water conservation	•Teaching to lobby for water policy
•Teaching about groundwater	•Training individuals to restore wetlands
•Facts about water issues	•Teaching water recreation
•Promoting indoor water conservation	•Teaching water chemistry
•Teaching about the water cycle	•Building trust in science through water programs
•Teaching about drinking water sources & safety	•Encouraging debate about water
•Teaching about natural waterways	

Program Objectives

•80% of the organizations ranked the seven topics listed in Table 2 as either a main objective or an objective of their organization.
•Presenting facts about water issues, and promoting indoor and outdoor water conservation were also identified as main objectives by 50% of the respondents.
•Addressing state educational standards through water programs and teaching about drought, were also commonly identified as main objectives for many of the WEPs.
•The most frequently selected objectives were not always a top-ranked main objective (*Chart 1*).
•Main objective priorities varied according to WEP organization types. These differences were also noted in the face-to-face interviews. Those WEPs associated with cities/municipalities identified indoor and outdoor water conservation to be a main education focus. However, three interviewees, whose main focus was teacher training, felt that the mission of their education programs were to provide teachers with information that focused on Arizona specific topics, with conservation being only a portion of that.

Chart 1. WEP Objectives

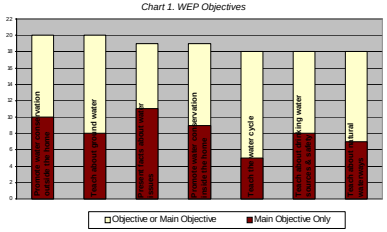

Table 3. Communication Methods Used

Communication Type	*Total Respondents Using*
Booths about water issues at community events	82%
Water activity books and guides for children	82%
Water articles in local/regional print media	77%
Teacher workshops about water	73%
Television commercials	64%
Newsletter about water	63%

Communication Tools:

Table 3 indicates the types of communication used by WEP's. A typical **workshop** educated teachers on water issues, covered multiple topics and provided the teachers with materials and specific water lesson plans, and frequently lasted more than one day.
WEPs had the most confidence in the effectiveness of workshops. Specifically, they identified efforts to include grade school teachers, high school teachers, and include information on water issues to be effective.
Newsletters were also viewed as highly effective. Those that included graphics to explain concepts and topics suggested by water educators were perceived as the most effective components of newsletters.

Program Overview

In program overview WEPs were asked four questions to identify their program's strengths, challenges, any content needed, as well as give any suggestions for K-12 water education in the Valley. Eighty-six percent of WEPs answered at least a portion of these reflective questions in this section.

Table 5. Strengths, Challenges and Content Needed by WEPs

Strengths Identified of WEPs	*Challenges of WEPs*	*Content Needed by WEPs*
•Lesson plans aligned to state standards •Active, hands-on lessons •Lessons that can be used independently •Lessons that cover a wide range of users •Number of contacts, associations and high visibility •Staff enthusiasm and dedication	•A need for additional staffing •Time for education/outreach purposes •Need for program evaluation •Need for additional and diverse funding opportunities •Population growth •Meeting the needs of diverse population	•Information on climate change/drought, reclaimed water, and urban water issues. •Choices in materials and/or workshops available for their use •Communication between WEPs •Collaboration

Discussion

• WEPs need assistance with the following areas : information on climate change, drought, reclaimed water and urban water issues, choices in material and program availability, materials in Spanish, program evaluation, and the needs for additional staffing and funding.

• DCDC could provide assistance with information on the topics of climate change, drought and urban water issues.

• DCDC's education staff could work with researchers to provide current information to WEPs for use in their newsletters and publications.

• Research results can be shared via graphs, short vignettes, the Ecology Explorers web site and other formats that WEPs identify.

• DCDC education staff could collaborate with the WEPs providing teacher workshops to develop activities/lessons that address some of the issues based on DCDC research.

• The DCDC education team organized a forum to address the topics identified by the survey in which they can assist WEPs.

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