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.

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.

Table 2 shows the most and least frequently selected objectives.

<table>
<thead>
<tr>
<th>Most Frequent Selected Objectives</th>
<th>Least Frequent Selected Objectives</th>
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<tbody>
<tr>
<td>Promoting outdoor water conservation</td>
<td>Teaching to lobby for water policy</td>
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<tr>
<td>Teaching about groundwater</td>
<td>Training individuals to restore wetlands</td>
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<tr>
<td>Facts about water issues</td>
<td>Teaching water recreation</td>
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<tr>
<td>Promoting indoor water conservation</td>
<td>Teaching water chemistry</td>
</tr>
<tr>
<td>Teaching about the water cycle</td>
<td>Building trust in science through water programs</td>
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<tr>
<td>Teaching about drinking water sources &amp; safety</td>
<td>Encouraging debate about water</td>
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<tr>
<td>Teaching about natural waterways</td>
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Target Audience
-80% of the organizations identified teachers as their targeted audiences, followed by students in grades K-6, grades 7-12, and then the public at large.

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.

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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