



WRRC
WATER RESOURCES RESEARCH CENTER



THE UNIVERSITY OF ARIZONA

COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

Desert Water Harvesting Initiative

Small Town Water Forum
June 26, 2014




wrrc.arizona.edu

Desert Water Harvesting Initiative

- DWHI Goal: to enhance outreach and communication between utilities, practitioners of water harvesting, academics, and interested citizens.
- BOR Desert LCC Grant to develop Resources
- Products Include:
 - Experts Directory
 - Compiled Publications
 - Assessment Toolbox



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The Water Harvesting Assessment Toolbox

- Decision support tool to explore water harvesting techniques and select locally appropriate tools
- Toolbox provides a facilitation process
- Participating personnel should include...water providers, flood control agencies, planning departments, stormwater management departments, conservation departments, utilities, transportation departments, elected officials, developers, homeowner’s associations, various water use sectors, environmental groups and/or others.
- Toolbox contains 5 tools



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EXAMPLE TABLE: PROVIDES DATA TO THE EXAMPLE CHART BELOW

EXAMPLE STEP 1. LOCAL WATER RESOURCES CHALLENGES	RANK LEVEL OF LOCAL CHALLENGES AS 1 (LOW) TO 10 (HIGH)		
	CURRENT	10 YEARS	25 YEARS
POTABLE DEMAND EXCEEDS SUPPLY	6	10	10
INSUFFICIENT PEAK CAPACITY	3	6	6
NEGATIVE ENVIRONMENTAL IMPACTS	2	4	6
CLIMATE CHANGE IMPACTING DEMAND & SUPPLY	7	6	10
INCREASING URBAN HEAT ISLAND EFFECT	5	7	8
INCREASING STORMWATER VOLUME	8	9	10
STORMWATER QUALITY ISSUES	3	4	5

YOUR LOCATION: ENTER DATA IN THE YELLOW BOXES BELOW THE DATA WILL APPEAR IN THE GRAPH BELOW

STEP 1. LOCAL WATER RESOURCES CHALLENGES	RANK LEVEL OF LOCAL CHALLENGES AS 1 (LOW) TO 10 (HIGH)		
	CURRENT	10 YEARS	25 YEARS
POTABLE DEMAND EXCEEDS SUPPLY	6		
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INCREASING STORMWATER VOLUME			
STORMWATER QUALITY ISSUES			

EXAMPLE CHART BELOW DRAWS EXAMPLE DATA FROM THE TABLE ABOVE

THE CHART BELOW DRAWS DATA FROM THE TABLE ABOVE

Step 1. Local Water Resources Challenges

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Navigation: STEP 1 CHALLENGES | STEP 2 LAND USE SECTORS | STEP 3 BENEFITS | STEP 4 PRIORITIES

Excel File Edit View Insert Format Tools Data Window Help

TOOL 2. Water-harvesting-assessment-spreadsheet.xlsx

Home Layout Tables Charts SmartArt Formulas Data Review

H10 fx

EXAMPLE TABLE: PROVIDES DATA TO THE EXAMPLE CHART BELOW				YOUR LOCATION: ENTER DATA IN THE YELLOW BOXES BELOW. THE DATA WILL APPEAR IN THE GRAPH BELOW			
STEP 4. LOCAL WATER HARVESTING (WH) PRIORITIES		RANK YOUR AREA'S PRIORITY FROM 1 (LOW) TO 10 (HIGH) FOR WATER HARVESTING (WH) FOR DIFFERENT LAND USE SECTORS, DIFFERENT WH STRATEGIES, AND FOR RETROFITTING EXISTING SITES VS. INCORPORATING WH AT NEW SITES		STEP 4. LOCAL WATER HARVESTING (WH) PRIORITIES		RANK YOUR AREA'S PRIORITY FROM 1 (LOW) TO 10 (HIGH) FOR WATER HARVESTING (WH) FOR DIFFERENT LAND USE SECTORS, DIFFERENT WH STRATEGIES, AND FOR RETROFITTING EXISTING SITES VS. INCORPORATING WH AT NEW SITES	
		RETROFIT EXISTING SITES	INCORPORATE INTO NEW SITES			RETROFIT EXISTING SITES	INCORPORATE INTO NEW SITES
SINGLE-FAMILY, PASSIVE WH		5	6	SINGLE-FAMILY, PASSIVE WH			
SINGLE-FAMILY, ACTIVE WH		2	7	SINGLE-FAMILY, ACTIVE WH			
COMMON AREA, PASSIVE WH		1	9	COMMON AREA, PASSIVE WH			
COMMON AREA, ACTIVE WH		1	3	COMMON AREA, ACTIVE WH			
COMMERCIAL, PASSIVE WH		1	8	COMMERCIAL, PASSIVE WH			
COMMERCIAL, ACTIVE WH		2	10	COMMERCIAL, ACTIVE WH			
STREET RIGHT-OF-WAY, PASSIVE WH		5	6	STREET RIGHT-OF-WAY, PASSIVE WH			
STORMWATER MANAGEMENT, PASSIVE WH		3	6	STORMWATER MANAGEMENT, PASSIVE WH			
STORMWATER MANAGEMENT, ACTIVE WH		2	4	STORMWATER MANAGEMENT, ACTIVE WH			

EXAMPLE CHART BELOW DRAWS EXAMPLE DATA FROM THE TABLE ABOVE

YOUR LOCAL CHART, WHICH DRAWS DATA FROM THE TABLE ABOVE

Plot Area

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Tool 3

- TOOL 3: Catchment-to-Canopy-Area Ratio Spreadsheet:** This Excel spreadsheet assists users in determining the optimum ratio of water harvesting catchment area to plant-canopy area to meet plant water needs in their location for a portion of each year.

Step 5. Estimate preferred catchment-to-canopy-area ratio



Tool 4

- **TOOL 4: Water Harvesting Resource Website:** The Toolbox website contains links to numerous resources and in-depth information about the water harvesting topics introduced in the Presentation, as well as links to download all of the Tools in the Toolbox.

Step 6. Learn and follow important design guidelines

Step 7. Manage water harvesting using key implantation steps



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Tool 5

- **TOOL 5: Decision-Maker Presentation Template:** This customizable PowerPoint presentation allows users to insert their own site-specific water harvesting assessment results, graphs, photographs, and recommendations to provide a concise and effective PowerPoint presentation for decision-makers and the public.

Step 8. Communicate water harvesting recs



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What you need to get started

- A facilitator who can gather materials, information, tools and people
- A meeting space with internet and projection capabilities
- 2 hours for a meeting that utilizes Toolbox tools



<https://wrrc.arizona.edu/DWHI/toolbox>

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