

The 7-Step Process in Practice: A Case Study Example

The Changing Public Behavior (CPB) project focuses on increasing citizen involvement because *people* are an important element of a conservation plan. The purpose of this case study example is to illustrate how the seven steps of the CPB Self-Study Module can be applied in a real situation. We've correlated actions taken in planning and delivering a successful outreach initiative to each of the steps in the module.

This case study is not intended as a perfect example. As you review the case study, consider whether you would have made the same decisions at each step in the planning process.

The Self-Study Module, worksheet, and self-assessment rubric are online at:

<http://fyi.uwex.edu/wateroutreach/changing-public-behavior/self-study-module/>

SELF-STUDY MODULE

STEP 2: Identify preliminary target audience(s)

Once you have identified the goal of your outreach effort, brainstorm who, specifically, could be a part of making that goal happen.

In cooperation with stakeholders, key informants, and experts:

- Identify and engage in a preliminary dialogue with the potential target audience(s).

Who was involved in planning the Arkansas outreach strategies:

Stakeholders, key informants, experts:

- Illinois River Watershed Partnership (IRWP) Education Committee (described in Step 1: Situation)
- University of Arkansas Cooperative Extension Service (CES)
- With audience assessment help from:
 - University of Arkansas Survey Research Center (SRC)
 - Maloney Associates, Inc (marketing firm)

The Arkansas project had a large budget and therefore had the potential to target a number of different audiences in a variety of ways. Project reports did not describe the process the outreach planning team went through to choose their target audiences.

STEP 2: IDENTIFY PRELIMINARY TARGET AUDIENCE

Identify a target audience(s) for the Arkansas project:

Changing Public Behavior, Educator Self-Study Module
University of Wisconsin, Environmental Resources Center

DRAFT 4

Each of the seven steps has:

A description of the step (yellow box)

Related background information from the Arkansas project

A brief activity to complete (green box). For some steps we've provided examples of possible activity entries. In other steps, you will be asked to provide answers related to the Arkansas project.



Project Name:

Illinois River Watershed Urban NPS Outreach and Education Project¹

The Illinois River Watershed Partnership and the University of Arkansas Cooperative Extension Service launched the Illinois River Watershed Urban Nonpoint Source Pollution Outreach and Education Plan in 2006. The Illinois River Project has not only provided a documented evaluation of changes in nonpoint source pollution (NPS) awareness and behaviors, but it has been invaluable in helping the Illinois River Watershed Partnership (IRWP) gain momentum in its work to engage stakeholders and to manage and restore the watershed.

The Project had a relatively large budget that allowed them to study their target audience using surveys as assessment tools. They studied two communities – one community was the target of an outreach campaign and the other was a control group. They began with a pre-campaign survey by phone, measuring attitudes and behaviors with both groups. They developed and implemented an outreach campaign for the target community applying survey findings. The project used a post-campaign survey to measure changes in attitudes and behaviors in both the communities. Data from each community was then compared to learn which of the outreach techniques were successful.

Illinois River Watershed
Water Quality Education/Outreach

ILLINOIS *River*
WATERSHED PARTNERSHIP

- April 2007 – September 2007
- Upper Illinois River Watershed
(Arkansas side)
- IRWP, UA Survey Research Center, UA Cooperative Extension Service
 - Public education programs
 - Public outreach campaign
 - Post-campaign phone surveys

¹ Case study information adapted from *Final Report: Illinois River Watershed Urban NPS Survey Project 02-1900* and *Final Report: Illinois River Watershed Urban NPS Outreach and Education Project 02-1900*, University of AR, Cooperative Extension, 2007. More information about the project and partnership are available at the Web site, <http://irwp.org/index.html>

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STEP 1: ASSESS AND DESCRIBE THE PROBLEM OR OPPORTUNITY

In cooperation with stakeholders, key informants, and experts:

- Determine what information is needed and where to find it
- Analyze information and clarify the issue
- Identify potential environment practices that can make a difference

Outlining a problem statement from Step 1 helps prepare you for Step 2.

Situation:

The Illinois River originates in Arkansas and flows into Oklahoma where it is designated as a Scenic River. The Illinois River Watershed covers 1,052,864 acres with 45% in Arkansas. It was selected in the 1998 “Arkansas’s Unified Watershed Assessment” as the third highest priority watershed in need of restoration and protection as it includes two imperiled aquatic species, provides drinking water supplies for a population of about 18,000, contributes to several state and interstate waters of concern, and is an EPA 319 priority watershed.

In 1999, 53.8% of the land in the watershed was pasture, 39.3% was forest and 6.4% urban (Census, 2000). Nearly one-quarter of the land areas changed its use between 1992 and 1999 (CAST, 1999)². From 1990 to 2000, the population of Washington and Benton counties grew 47% resulting in more than 100,000 new residents. Benton County grew by 12.1% and Washington County by 7.6% from 2000-2003. As a result, there is a significant increase in residential, commercial and industrial development, road construction and other infrastructure construction. The potential impact of these activities must be addressed when considering watershed management and restoration efforts.

Nonpoint source pollution affecting the Illinois River Watershed is primarily from pasture land that is also fertilized with poultry litter. Conversion of forest to pasture, removal of riparian buffers for construction, road construction, road maintenance and other activities including in-stream gravel removal contributes to siltation problems and the destabilization of the stream bed and excess bank erosion. Impairments in the waterways in the Illinois River Watershed are due to excess sediment and/or nutrients.

As a downstream state, Oklahoma has adopted a numerical water quality standard of 0.037 mg/L phosphorus during base flow that will become effective in 2012. While confined animal agriculture and municipal wastewater dischargers may historically be phosphorus contributors, the problem is much more complex and should be addressed by all stakeholders in the watershed. Other nutrient sources such as excess fertilizers, pet wastes and poorly functioning septic systems, as well as sediment loads from improperly managed construction sites and eroding stream banks are likely impacting the watershed as well.

In December 2005, the Illinois River Watershed Partnership (IRWP), a diverse group of Northwest Arkansas leaders, was formed with the ultimate goal of developing and implementing a watershed management plan for the entire Illinois River basin. The IRWP is structured to involve a wide diversity of entities, and thus a diversity of opinions and motivations. The Board of Directors is comprised of 3 members in each of the following 6 categories: Agriculture, business, conservation, construction, government and technical, research and education. Additionally, there are between three and thirteen other members in an At-Large category, designed to give our Board flexibility in growth as well as to maintain its diversity and balance. The IRWP and the University of Arkansas Cooperative Extension Service (CES) worked together to define the environmental issue and develop project goals.

² University of Arkansas, Center for Advanced Spatial Technologies, <http://www.cast.uark.edu/>

What were the project vision and goals?

	Management	Outreach
Vision	<ul style="list-style-type: none"> ▫ The Illinois River and its tributaries will be a fully functioning ecosystem, where ecological protection, conservation and economically productive uses support diverse aquatic and riparian communities, meet all state and federal water quality standards, promote economic sustainability and provide recreational opportunities. 	<ul style="list-style-type: none"> ▫ To improve the integrity of the Illinois River through public education and community outreach, water quality monitoring, and the implementation of conservation and restoration practices throughout the Illinois River watershed.
Goal	<ul style="list-style-type: none"> ▫ To eliminate or minimize urban nonpoint source pollution 	<ul style="list-style-type: none"> ▫ To raise residents' awareness and knowledge of urban NPS impacts and to incite individual prevention actions.
Action	<ul style="list-style-type: none"> ▫ To realize measurable impacts in water quality by conducting a carefully planned outreach campaign. 	<ul style="list-style-type: none"> ▫ To conduct an urban NPS mass media outreach campaign in concert with educational programs. ▫ To assess measurable changes in public knowledge, attitudes, and pollution prevention actions. ▫ To create a guide for future local outreach and education campaigns and a model for successful replication in other urbanized watersheds across the state and region.

STEP 1: ACCESS AND DESCRIBE THE PROBLEM OR OPPORTUNITY



Entry example: Pasture land management and common urban NPS pollution in northwest Arkansas are impacting the watershed (pasture land runoff, loss of riparian buffers, road construction, urban fertilizers, pet waste, poorly functioning septic systems, construction site runoff, eroding stream banks). Farmers, land managers, and urban residents must be educated about these issues and the roles they need to take to improve and protect watershed resources.

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STEP 2: IDENTIFY PRELIMINARY TARGET AUDIENCE(S)

Once you have identified the goal of your outreach effort, brainstorm who, specifically, could be a part of making that goal happen.

In cooperation with stakeholders, key informants, and experts:

- Identify and engage in a preliminary dialogue with the potential target audience(s).

Who was involved in planning the Arkansas outreach strategies?

Stakeholders, key informants, and expert were involved in developing the outreach strategy:

- Illinois River Watershed Partnership (IRWP) Education Committee (described in Step 1: Situation)
- University of Arkansas Cooperative Extension Service (CES)
- With audience assessment help from:
 - University of Arkansas Survey Research Center (SRC)
 - Maloney Associates, Inc (marketing firm)

The Arkansas project had a large budget and therefore had the potential to target a number of different audiences in a variety of ways.

Identifying a target audience

While project reports did not describe the process the outreach planning team went through to choose their target audiences, it is apparent from project activities that the planning team engaged at least some audiences linked to problems identified in the situation statement in the decision-making process. Potential audiences could be selected from individuals or groups responsible for or affected by the following situations:

- NPSP affecting the Illinois River Watershed is primarily from pasture land that is also fertilized with poultry litter.
- Conversion of forest to pasture, removal of riparian buffers for construction, road construction, road maintenance and other activities including in-stream gravel removal contributes to siltation problems and the destabilization of the stream bed and excess bank erosion.
- Other nutrient sources such as excess fertilizers, pet wastes and poorly functioning septic systems, as well as sediment loads from improperly managed construction sites and eroding stream banks are likely impacting the watershed as well.



STEP 2: IDENTIFY PRELIMINARY TARGET AUDIENCE

Identify a target audience(s) for the Arkansas project:

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STEP 3. DETERMINE SPECIFIC ACTIONS CITIZENS NEED TO TAKE TO ACCOMPLISH YOUR MANAGEMENT GOALS

In cooperation with stakeholders, key informants, and experts:

- What does the audience need to be able to do?
- Outline steps to accomplish the environmental practice

3a. Describe the preferred **environmental practice that could have an impact on the environmental problem**. Integrate advice from experts, stakeholders, and key informants.

3b. Outline **single behaviors** required to implement the environmental practice. An ideal behavior is a single, observable action that experts consider people need to perform in order to reduce or help resolve a specific environmental problem.

The planning group decided to focus their outreach campaign on the urban audience. They concluded that Arkansas residents need to better manage stormwater runoff, lawn and garden activities, and vehicle maintenance; youth need to apply stewardship practices in their daily lives; the construction industry needs to enhance stormwater management compliance to reduce sediment erosion, and developers and planners need better information on low impact development options.

STEP 3: WORKSHEET ENTRY



Entry Example – Specific actions for households

3a. Environmental Practice(s)*:

Households need to:

1. Test their soil for fertilizer and lime needs
2. Understand how to interpret soil test reports
3. Know when and how to fertilize their lawns
4. Compost
5. Conserve water
6. Use native plants, plant rain gardens, use rain barrels
7. Dispose of household hazardous waste correctly
8. Avoid putting pollutants in storm drains
9. Be aware of watershed runoff issues
10. Pick up pet waste

3b. Single behaviors*:

Outline single behaviors related to the practice of knowing *when and how to fertilize their lawns* (#3 above). Residents need to:

- Dig soil samples correctly
- Locate soil testing facility
- Interpret test results correctly
- Check weather conditions before spreading fertilizer
- Apply fertilizer correctly

*The Arkansas project had a large budget and therefore had the potential to select a number of practices and behaviors to include in their outreach strategies.



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STEP 4. COLLECT AUDIENCE INFORMATION RELEVANT TO THE ENVIRONMENTAL PRACTICE AND SPECIFIC BEHAVIORS

Identify and understand “segments” of the relevant population.

- What does the audience already do relative to the preferred behavior?
- Are there barriers?
- What are audience skills, interests, needs?

Collect and analyze information about each audience relative to the proposed behaviors. Consider current behavior, perceived consequences, barriers, social norms, knowledge, and skill.

Assessment procedure used: Pre-survey

To determine the design of the outreach education strategy and to develop a baseline to measure its effectiveness, the University of Arkansas Survey Research Center (SRC) conducted a pre-outreach survey in urban areas of both the Illinois River Watershed (experimental population) and Faulkner County (control population). Faulkner County was selected as a control group because its residents are demographically similar to urban residents in the Illinois River Watershed, yet far enough away that they will not receive the educational program.

A 33-question survey was developed by the IRWP Education Committee and refined by the Survey Research Center to address urban water quality knowledge, attitudes, and pollution prevention actions. The pre-outreach survey was conducted by phone during the summer of 2006 with a random sample of residents. Randomly generated phone numbers were purchased from a national sampling firm. The average time for the interview was 19 minutes. Complete responses were analyzed from 793 urban residents in the Illinois River Watershed, and 580 from the control population. Table 1 includes sample information from the survey, adapted for this case study.

Table 1. Arkansas pre-survey data – sample responses for selected questions

Categories of information	Experimental population	Control population
Population profile	<ul style="list-style-type: none"> • Education, income and age similar to control (not defined in report) • Higher percentage of Latino, Asian, and Native American respondents than control • Majority live in single family homes and own them • Approximately 40% of women and 60% men distributed across age groups of 26 years and above 	<ul style="list-style-type: none"> • Education, income and age similar to experimental population (not defined in report) • Higher percentage of Caucasian and African-American respondents than experimental population • Majority live in single family homes and own them • Approximately 40% of women and 60% men distributed across age groups of 26 years and above
KNOWLEDGE AND AWARENESS		
Impression of water quality	<ul style="list-style-type: none"> • 25% rated water quality as “good” or “fair” • 51% said they did not know enough to evaluate the quality 	<ul style="list-style-type: none"> • 44% rated water quality as “good” or “fair” • 34% said they did not know enough to evaluate the quality
Familiarity with terms	<ul style="list-style-type: none"> • 70% familiar with the term <i>watershed</i> • 71% familiar with the terms <i>storm water</i> and <i>storm drain</i> • 25% familiar with the term <i>nonpoint source pollution</i> 	<ul style="list-style-type: none"> • 78% familiar with the term <i>watershed</i> • 67% familiar with the terms <i>storm water</i> and <i>storm drain</i> • 20% familiar with the term <i>nonpoint source pollution</i>
Perception of causes of pollution	<ul style="list-style-type: none"> • 23% identified farming activities • 7% identified residential activities • 9% identified new construction • 37% accurately identified the major impact of phosphorous pollution as promoting excessive plant and algae growth in lakes and rivers 	<ul style="list-style-type: none"> • 10% identified farming activities • 11% identified residential activities • 9% identified new construction • 20% accurately identified the major impact of phosphorous pollution as promoting excessive plant and algae growth in lakes and rivers



Categories of information	Experimental population	Control population
Importance of personal actions	<ul style="list-style-type: none"> 75% believed that their actions can have some or great affect on their region's water quality 36% believed that individuals are ultimately responsible for protecting and improving water quality [but 30% believed government is responsible] 	<ul style="list-style-type: none"> 75% believed that their actions can affect their region's water quality 33% believed that individuals are ultimately responsible for protecting and improving water quality [but 33% believed government is responsible]
Knowledge of storm water concepts	<ul style="list-style-type: none"> 88% think they know where storm water goes when it runs off their property When water leaves the storm sewer, 24% thought it went to a wastewater treatment plant, and 39% thought it went to lakes, rivers, and wetlands 	<ul style="list-style-type: none"> 92% think they know where storm water goes when it runs off their property When water leaves the storm sewer, 21% thought it went to a wastewater treatment plant, and 47% thought it went to lakes, rivers, and wetlands
BEHAVIORS		
Uses of waterways	<ul style="list-style-type: none"> 30% identified fishing 43% identified recreation 	N/A
Regarding managing household hazardous waste	<ul style="list-style-type: none"> 52% "recycle" household hazardous products 	<ul style="list-style-type: none"> 36% "recycle" household hazardous products
Regarding lawn care	<ul style="list-style-type: none"> 51% apply fertilizer 12% tested for lawn fertilizer needs 35% use pesticides 	<ul style="list-style-type: none"> 48% apply fertilizer 18% tested for lawn fertilizer needs 39% use pesticides
Regarding pet waste management	<ul style="list-style-type: none"> 47% never pick up pet waste from their yards 	<ul style="list-style-type: none"> 49% never pick up pet waste from their yards
What keeps you from preventing water pollution	<ul style="list-style-type: none"> 56% said "not enough information" 55% said "not enough time" 40% said they don't know how 	<ul style="list-style-type: none"> 65% said "not enough information" 33% said "not enough time" 43% said they don't know how
PUBLIC POLICY		
Support for buffer zone requirements in urban areas	<ul style="list-style-type: none"> 82% recommend buffer zone requirements 	<ul style="list-style-type: none"> 79% recommend buffer zone requirements



STEP 4: WORKSHEET ENTRY

Pre-Campaign Survey Results
Basis for Outreach Emphases

- Less than 40% understood storm drains empty into local waterways
- Most could not name their local creek
- 41% applied fertilizer in the past year
- Only 12% has their soil tested to determine nutrient needs
- Top sources for news/information (TV, newspaper, radio)

SURVEY

Audience information:

Table 1 illustrates the type of information you would analyze in order to identify data that would inform your understanding of behavior change needs and the potential for the audience to make a change.

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STEP 5. ASSESS POTENTIAL FOR ADOPTION OF SINGLE BEHAVIORS AND THE ENVIRONMENTAL PRACTICE

Rate potential for behavior change:

- Does it meet an audience need or address an interest?
- Does it have an impact on the problem?
- Does it provide users with an observable consequence?
- Is it similar to what the user does already?
- Is it simple for the user to do?
- Is it low cost in \$, time, and energy for the user?

Arkansas CES and the IRWP Education Committee utilized the pre-campaign survey results to prioritize NPS pollution prevention topics, target audiences and methods. Additional consultation from a University of Arkansas PhD student specializing in EcoPsychology provided a great deal of insight and research that media messages promoting positive comments/behaviors (“Everyone Does this...” or “You can protect...”) really incite pollution prevention actions whereas negative (“Don’t do that...!” or “It’s SO polluted...”) messages typically effect limited change because the public is convinced that they their actions can’t overcome the current environmental problem. Investigations into other states’ urban NPS campaign examples and experiences also revealed the importance of concise, but repeated messages rather than a list of concepts and actions.

While much of the demographics and responses from both groups were very similar, less than 40% of the respondents understood that storm drains empty into local waterways, and while 51% applied fertilizer to their lawn/garden during the past year, only 12% had their soil tested to determine the actual plant nutrient needs. With the survey data and these suggestions in mind, CES/IRWP Education Committee considered a) what the urban residents of the upper Illinois River Watershed needed to know, b) what the IRW residents needed to do (or stop doing), and c) what was the best way to show

them how to make behavioral changes. They also considered the short time allotted to try to capture measurable changes through the pre- and post-survey tasks.

In some circumstances your audience may have already adopted appropriate behaviors; your outreach efforts can then build on those activities. In *declining order*, Arkansas residents with lawns in the experimental and control group said in 2006 that they did one or more of the following to maintain their lawn or garden: *water, apply mulch, apply fertilizer, use pesticides and/or herbicides, use compost, test for fertilizer needs.*

“Dirt Drop-Off” Events

- Promote ease and benefits of soil testing
precise fertilizer application = reduced nutrient runoff
- Fayetteville Farmer’s Market = convenience

UNIV. OF ARKANSAS EXTENSION SERVICE

ILLINOIS River
WATERSHED PARTNERSHIP

SOIL TESTING



STEP 5: WORKSHEET ENTRY

Rate Potential for behavior change – sample results based on survey data

Is it likely that the user will adopt the behavior? [yes, maybe, don't know, no]

3b. Single behaviors (examples)	Does it meet an audience need or address an interest?	Does it have an impact on the problem?	Does it provide users with an observable consequence?	Is it similar to what the user does already?	Is it simple for the user to do?	Is it low cost in \$, time, and energy for the user?
Residents will calibrate their spreaders	Unknown	Yes – people use less fertilizer	Yes – people use less fertilizer	No	Yes	Yes
Residents will test for nutrients before fertilizing lawns	Unknown	Maybe	Yes – They would save \$ on fertilizer.	No	Maybe	Maybe
Residents will pick up lawn pet waste	Maybe	Maybe	Yes – cleaner streets, yards, shoes	Maybe	Maybe	

The 7-Step Process in Practice: A Case Study Example

STEP 6. SELECT RECOMMENDED BEHAVIOR(S)

Compare audience information with single behaviors.

Select behaviors that have potential for adoption.

Revise problems statement and target audience selection, if necessary.

After analyzing the survey data, the Arkansas team decided the behaviors listed in Table 2 had the most potential for adoption based on the high percentage of their audience that lacked knowledge about the path of runoff water and high percent that applied fertilizer without testing soil nutrients.

Table 2. Selected behaviors for urban homeowners (audience)

Environmental practice	Single behaviors selected: Audience(s) need to...
Lawn care: fertilizing	Test soil to determine proper application quantities.
Lawn care: fertilizing	Interpret soil test results accurately
Yard waste removal	Compost yard waste
Water conservation	Plant a rain garden or construct a rain barrel
Proper household hazardous waste disposal	Bring household hazardous waste to a municipal pick-up day



STEP 6: WORKSHEET ENTRY

Select behaviors with potential for adoption:

See the “Single behaviors selected” column in Table 2. Comparing recommended practices against the Step 5 rating categories (p. 9) indicates that these practices meet at least some of the six criteria for adoption. The others need to be addressed in the outreach design.

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STEP 7. Describe outreach or education strategy

7a. Use audience information to help you choose a technique:

- Ask for a commitment
- Provide a specific prompt, near behavior
- Communicate the norm
- Remove barriers
- Provide information
- Increase skills
- Engage participants in a problem-solving activity

7b. Monitor and evaluate

Arkansas outreach techniques

From a long list of ideas, three main campaign themes were identified:

- “Where Does It Go?” (watershed runoff awareness),
- “Don’t Guess – Soil Test!” (encouraging proper application of urban fertilizers)
- “Only Rain Down the Drain” (urban NPS Pollution prevention).

Action

With television news named as the most frequently indicated source of news for residents of the Illinois River Watershed (83.7%) along with newspapers (68.8%), radio (49.7%), and internet (48.4%), the education committee decided to fund a mass media campaign with concise but repeated messages was orchestrated across multiple media outlets.

“Where Does It Go?” (watershed runoff awareness), “Don’t Guess – Soil Test!” (encouraging proper application of urban fertilizers), and “Only Rain Down the Drain” (urban NPS Pollution prevention) were promoted repeatedly through the www.irwp.org website, 13 newspaper print ads, 4 30-second TV PSAs, 4 15-second radio PSAs, 2 billboards, an 8-week online “Watershed Challenge”, and a series of 8 “Watershed Wednesday” pollution prevention segments in conjunction with evening weather forecasts on the local ABC affiliate.

Concurrently, CES and IRWP urban NPS pollution prevention outreach and education programs were conducted for the urban residents in the Upper Illinois River Watershed. They included 26 civic presentations (1277 participants), 12 hands-on interactive youth programs (2,035 participants), 8 trainings including construction erosion and sedimentation workshops and Low Impact Development seminars/workshops (473 participants), 2 field days (143 participants) and 8 events including soil testing “Dirt Drop-Offs” and Household Hazardous Waste “Round-Ups” to reinforce the outreach campaign messages (reaching in excess of 2,400 participants).

Outreach Campaign

- Mass media campaign (“Soil Testing” and “Where Does It Flow?”)
- Website
- Mass media:
 - 13 Newspaper ads
 - 6 Radio ads
 - 4 Television ads
 - 2 Billboards
- 8-week online “My Watershed Challenge” and NBC meteorologist’s “Watershed Wednesdays”
- 7-Minute “Follow the Water” homeowner BMP video

OUTREACH CAMPAIGN

ILLINOIS *River*
WATERSHED PARTNERSHIP



The control population in Faulkner County did not experience the media campaign or outreach events. Therefore, when the post-campaign survey was conducted, changes in urban NPS awareness, knowledge and pollution prevention actions were attributed to the effectiveness of targeted outreach and education efforts.

Support

Materials that were developed and/or printed to support educational programs for this project included an Illinois River Watershed map/education panel poster, EPA's "After the Storm" and "Make Your Home the Solution to Stormwater Pollution" brochures, "Protecting Water Quality from Urban Runoff" brochure fact sheet, kid's stormwater stickers, "10 Things That You Can Do to Prevent Polluted Runoff" bookmark, "Take the Stormwater Challenge" placemat and CES' "Arkansas Watersheds", "Test Your Soil for Fertilizer and Lime Needs", "Understanding the Numbers on Your Soil Test Report", "Fertilizing Your Lawn", "Composting", "Home Water Conservation", "Rain Gardens in Northwest Arkansas", "Native Plants for Northwest Arkansas Rain Gardens", "Why Rain Barrels?", "Household Hazardous Waste" and the "Household Hazardous Waste Checklist" as well as Beaver Water District's "Rain Barrel Construction".

Develop a strategy for short-term or long-term change?

Consider whether you want to focus on an immediate problem or specific behavior, or whether you want to look towards a long term, sustainable result, or both. You may want to create an outreach strategy that offers a combination of techniques applied at various stages of an initiative.

Continuum of choices

<http://fyi.uwex.edu/wateroutreach/changing-public-behavior/self-study-module/self-study-module-step-7/vii-a-continuum-of-choices/>

Deciding whether to focus on a short-term, specific-behavior change or something more permanent requires that you integrate an understanding about *how people learn and change* into your thinking about what you want to do. There is no one right answer, but a continuum of choices. Outreach or education techniques can be grouped according to where they fit in a continuum of how people learn and change.

Measure [↑ indicates an increase]

Measurable impacts found through the survey process included:

- Increases in urban Illinois River Watershed residents' awareness of such concepts as watershed (12.6% ↑), storm water (17.3% ↑), storm drain (8.8% ↑) along with consequences of excess phosphorous (9.9% ↑) and a greater understanding of the destination of urban runoff (47.7% ↑).
- The post-campaign also indicated that education has helped to change or reinforce attitudes about impacts of population growth on water quality, the idea that individuals are ultimately responsible for protecting and improving water quality, and that individuals are capable of affecting water quality.
- The project's educational programs have likely helped promote:
 - Greater reliance on fertilizer and/or pesticide package directions (19.9% ↑) and weather (91% ↑) for determining quantities of fertilizers and pesticides to apply,
 - Increased use of the Extension Service's information and soil testing services (77.4% ↑),
 - Increased interest in volunteering to stencil storm drain messages (6.7% ↑) and to attend workshops on environmentally-friendly gardening (13.1% ↑) and construction erosion control (8.3% ↑).

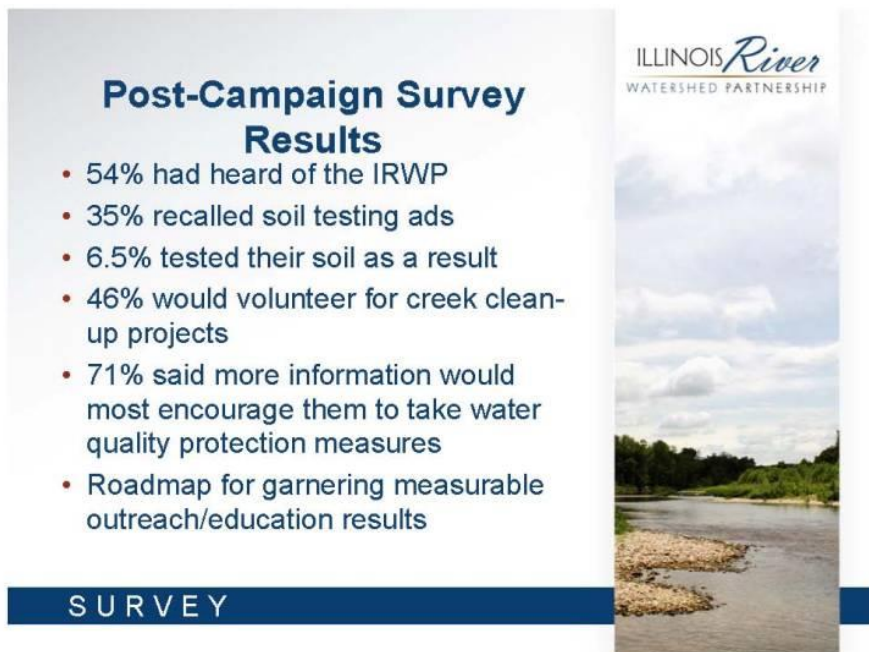
IRWP's educational program may have contributed to a rise in the importance IRW residents attribute to water quality, maintaining a strong level of support for buffer zone requirements and willingness to pay for them. Furthermore, the outreach is likely to have stimulated a desire for more information, community and individual leadership on how residents can prevent water pollution. The IRWP has gained recognition among IRW residents (55.5% versus 14% in the control population in 2007) and along with it increased residents' awareness of such demonstration projects as rain gardens (14.4% in IRW versus 5.2% in Faulkner County).

Evaluate

Needless to say, the post-campaign survey findings have also identified numerous needs for continued education about water quality and how to promote it. These include a continuing need to educate about what nonpoint source pollution is, who is responsible for it and how it affects the Illinois River, lakes and wetlands within the watershed, including the current status of the quality of water in these. While a large minority knows the destinations of various types of water, the majority does not. And, while residents are making strides in use of fertilizers and pesticides, information about gardening using appropriate quantities and when to use them is still

needed. Residents also need information about the importance of cleaning up pet waste. While interest in educational workshops and volunteer activities fell from stated 2006 levels, it is probably more honest and indicates an interest in these opportunities. Following through on them would be productive not only for those involved, but also for the entire community.

Overall, the gains from this project are numerous and will serve to stimulate more attitudinal and behavioral change over time. It was a great challenge to develop and implement the project's outreach and educational programs in such a short time, but the IRWP and the CES are heartily committed to continuing these efforts.



The graphic features a light blue background with a dark blue bar at the bottom containing the word "SURVEY" in white. On the right side, there is a vertical photograph of a river with a rocky bank and a cloudy sky. The logo for "ILLINOIS River WATERSHED PARTNERSHIP" is in the top right corner.

Post-Campaign Survey Results

- 54% had heard of the IRWP
- 35% recalled soil testing ads
- 6.5% tested their soil as a result
- 46% would volunteer for creek clean-up projects
- 71% said more information would most encourage them to take water quality protection measures
- Roadmap for garnering measurable outreach/education results



STEP 7: WORKSHEET ENTRY

Describe outreach techniques, monitoring opportunities, and evaluation techniques: Use a logic model to help coordinate short term goals with specific outreach activities and evaluation measurements.