

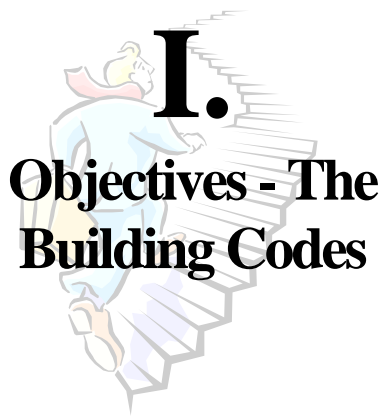
AmeriCorps programs addressing environmental issues typically contribute to broad goals, such as creating a better environment, providing cleaner water, and educating future generations of consumers. Services vary significantly depending on the location and community context of the programs. Programs in rural areas often carry out activities related to the maintenance and improvement of parks or natural habitats. Many programs in urban areas carry out activities related to pollution control and neighborhood beautification. Samples of both rural and urban activities are listed in the table below.

A subset of programs addressing environmental issues, both rural and urban, is engaged in environmental education and service-learning activities. These programs are often conducted in collaboration with local schools. Some of these programs serve with science teachers to integrate service-learning into the academic curriculum. Others follow a less structured approach, with members conducting occasional school presentations on issues such as recycling or the local natural habitat. Service-learning evaluation involves some of the same approaches as the evaluation of other education activities. Both Chapter 7 and this chapter address evaluation issues you may face.

Chapter 9 Environmental Programs



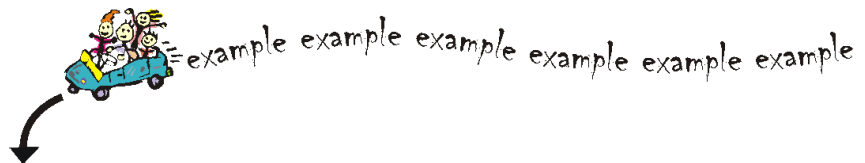
Rural Activities	Environmental education	Environmental education	Urban Activities
	Trail building or maintenance	Establishing community gardens	
	Watershed management and restoration	Graffiti removal	
	Site remediation	Recycling	
	Erosion control	Water testing	
	Revegetation	Toxics abatement	
	Stream maintenance	Trash cleanup	



Objectives are your building codes for getting things done. Like building codes, objectives are measurable and contain clear criteria for program success. As with other AmeriCorps priority areas, writing objectives for programs addressing environmental issues requires a description of activities, results, measures, standards of success, and beneficiaries. The following are some tips and issues to consider when you write your objectives. See Chapter 1 or “Writing Outcome Objectives” in the reference section for more information.

Activities and Results

Programs addressing environmental issues tend to focus on counting accomplishments rather than measuring outcomes of their accomplishments. This is partly due to the nature of environmental activities, which lend themselves to counting accomplishments. It is also important to address the “quality” and “outcome” questions. The quality question addresses both your activities (process) and your expected results (outcome). When appropriate, your objective statement can include quality standards, such as references to inspection standards for trail construction or for weatherproofing houses for energy efficiency.



Outcome
Result: Illegal dumping of toxic waste will decrease resulting in improved water quality.
Measure: Pre/post water quality test
Standard: The post water quality test will demonstrate that the water quality meets the standard EPA guidelines.

Quality
Result: Trail safety quality will improve.
Measures: Trail Safety Observation Checklist
Standards: 80 percent of the trails will meet 100 percent of the safety quality standards.

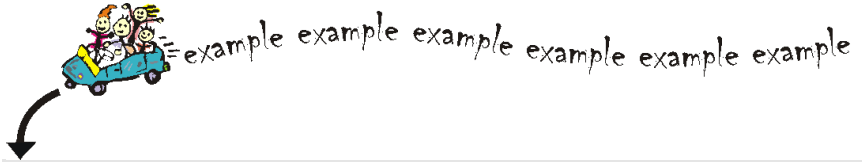
Activities, Potential Results, and Measures

Service Activity	Potential Results (choose only one)	Possible Measures (select measures appropriate to your desired result)
Urban and Rural Environmental Education/Recycling Education	<ul style="list-style-type: none"> • Increased knowledge of environment (e.g., natural resources, resource management, and ecology). • Improved environmental skills (e.g., gardening, restoration) • Increased recycling 	<ul style="list-style-type: none"> • Pre/post tests of knowledge • Skills observation checklists • Pre/post survey regarding recycling behavior • Log of pounds of recycled materials
Urban Cleanup and Restoration, Trash Cleanup, Graffiti Removal, Recycling, Toxic Substance Abatement, Water Quality Testing, Community Gardens	<ul style="list-style-type: none"> • Increased pride in neighborhood • Increased sense of community • Cleaner/safer environment • Increased recycling 	<ul style="list-style-type: none"> • Neighborhood survey • Focus groups/interviews of neighborhood residents • Pre/post pictures • Expert assessment (via survey or interview) of increased safety • Log of pounds of recycled materials • Log of pounds of trash removed
Rural Cleanup and Restoration, Erosion Control, Stream Maintenance, Watershed Management and Restoration, Trail Building or Maintenance, Revegetation	<ul style="list-style-type: none"> • Improved water quality • Increased wildlife/wildlife habitat • Increased trail safety • Increased recreational/educational access to wilderness areas 	<ul style="list-style-type: none"> • Water quality tests • Expert assessment of effects of erosion control/watershed • Management efforts • Species count • Survival count of plants/trees • Miles of trails built or maintained • Survey of trail/park users • Pre/post log of number of trail users

You may successfully accomplish planting within the period of the assigned project. However, the plants taking root, growing, and attracting birds, butterflies, etc., may not occur for months, perhaps beyond your reporting period. The measures listed on the table above shows how the service of the environmental crew can fit into an area-wide erosion control plan, perhaps developed by a local environmental agency. This attests to the relevance and contribution of your service to local conservation efforts. In subsequent program years, you can return to the site in order to measure the long-term impacts like plants taking hold or birds and animals returning to the natural habitat.



Tip: External factors affect the outcome of your projects.
 Identify and filter out possible external factors that may affect observed outcomes.



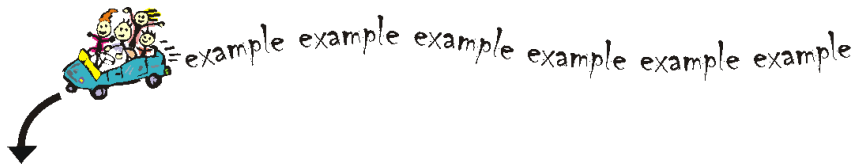
Activity: Twenty AmeriCorps members will plant native vegetation to hold soil in place or to provide food and cover for wildlife on Route 7.
Measures: Log of the number of shrubs planted or the total area covered. Interview an erosion expert on his or her view of the potential long-term impact of the project.

External Factors

Factors beyond your control may affect the evaluation of your program’s efforts. In a stream restoration program, the weather, changes in agricultural water utilization, and other environmental remediation projects further upstream may negatively or positively influence the water quality in a stream. If members carry out a stream restoration project, verify whether there are businesses or projects further upstream, which may affect the water quality at the site. If there are several agricultural operations further upstream, seasonal irrigation runoff may affect water quality. A program’s measures could include a log of the water flow rates as a measure, expert assessment of the project, or documentation of the outcome of service with photographic records.



Tip: Identify specific, concrete measures of change in the well being of beneficiaries.
 Many programs aim to improve the “quality of life” in a community or neighborhood by conducting activities such as trash collection, graffiti cleanup, or establishing community gardens. In order to measure quality of life objectively, identify specific measures of change.

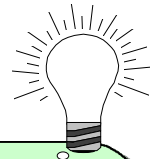


Activity: Six AmeriCorps members will provide a neighborhood cleanup project to remove hazardous materials from a neighborhood park, allowing children to use the park playground without risking injury.

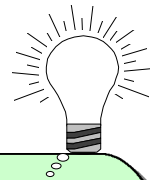
Measure: Log of the increase in number of children using the playground. (To determine whether the number of children has increased, go to the playground at pre-assigned days and count the number of children using the facilities, both before and after the cleanup. Parents in the community could also attest to the benefits of the safer playground.)

Beneficiaries

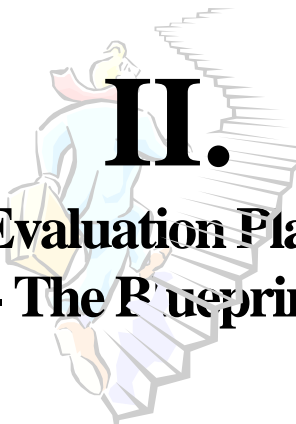
Identifying the beneficiaries of programs addressing environmental issues is notoriously difficult. While both human beings and other species benefit from your efforts, it is not easy to measure. In addition, environmental activities tend to benefit people indirectly and over large areas. For example, potential beneficiaries of a watershed restoration project include whole watersheds (and all living things in them), everyone who may ever recreate in a lake, and anyone who drives a certain road. There are also activities that support natural areas that are out of reach of people altogether — for instance, environmental restoration service in nature preserves. Make sure that the people you describe in your beneficiaries statement are the ones who will benefit from your services.



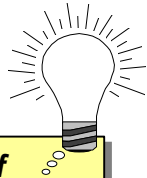
Tip: Count people over other species. Whenever possible, count specific, realistic numbers of either individuals or households (estimates are acceptable). Sponsoring agencies often have data that can help you calculate this number.



Tip: Use categories. When the beneficiaries are widespread or uncountable, it is acceptable to use categories (e.g., types of park users) as long as they are relevant. Although you believe that every acre of wetlands that is restored benefits the entire nation, your reporting will be more credible if you hone it down to specific types of users. It would be reasonable to say that the whole community benefits, but you can also estimate the region's bird club enthusiasts, duck hunters, or refuge visitors.



II. Evaluation Plans - The Blueprints



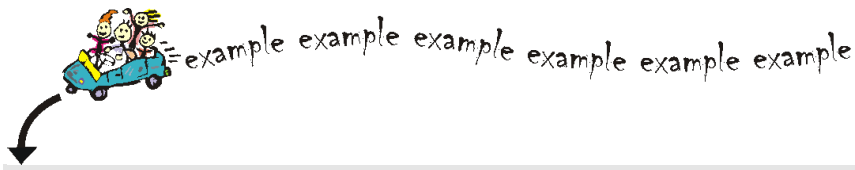
Tip: Use samples of people and sample measurements.

Programs addressing environmental issues tend to affect a large number of individuals or environmental units. Whether you are interviewing people or making scientific measurements, try using samples. To evaluate the outcome of your community garden, you do not have to survey every person in the neighborhood; a sample of randomly selected people (e.g., thirty or so) will do. Likewise, to analyze water quality at the local lake, you do not need to check all the water. It is the same principle, collect just a few water samples at specified locations and at pre-determined time intervals (e.g., every month). See “Sampling Issues” in Chapter 3.

E for implementation according to the building codes. They describe an overall picture of what the evaluation entails and include specific information on when data will be collected, how often, and by whom. Evaluation plans consist of information in the objectives, including program activities, beneficiaries, results, instruments to be used, and standards for success. In addition, the plans identify who will be responsible for analyzing and reporting results. In planning for evaluation, the main challenge faced by programs addressing environmental issues is to identify feasible data collection and analysis methods given the available resources. The following are specific tips and considerations for developing your evaluation plan. See Chapter 2 or “Evaluation Plans” in the reference section for more information.

Expectations of Outcome

Establish realistic expectations of outcome based on the scale of the intervention. In thinking about your measures (and your standards of success), be sure to make a realistic assessment of the potential outcomes of your activities. The first table on the following page describes indicators and results for programs addressing environmental issues. The other table provides examples of commonly used environmental indicators, as well as examples of matching standards of success. If the scale of your intervention is limited in comparison to the magnitude of the environmental problem, look for measures that can capture these modest outcomes.



Activity: Fifteen AmeriCorps members will visit fifty households and will provide information to raise awareness about recycling.
Measure: A follow-up survey of the targeted families to determine how they changed their recycling habits.

Environmental Indicators and Results

Results	Indicators
Increased Water Quality	Decrease in sedimentation, a change in pH, or a decrease in chemical or biological counts.
Increased Quality of a New Trail	The trail meets specific standards for grade, width, etc.
Increased Quality of Life	Use of a re-built basketball court by neighborhood teens.

Typical Environmental Indicators of Quality and Outcome

Indicator	Example of Standard of Success
Species counts	At least 32 percent increase in invertebrates
Degree of sponsor satisfaction	At least 98 percent total satisfaction
Degree of public, user, resident assessment	At least 75 percent will rate the park more attractive
Code inspection or standards met	At least 90 percent of construction will pass inspection
Sustainability	At least 80 percent of areas will be graffiti-free after three months
Survival rates	At least 98 percent of plants will survive ninety days
Attitude, behavior, knowledge changes	At least 82 percent of participants will volunteer
Response rate	At least 65 percent will call for service
Chemical and biological analysis	At least 0.5 increase in pH 500 mg/l decrease in sediment



Tip: Interview experts or “key informants.”

Key informants are familiar with your activities, well respected, and knowledgeable in their field. Experts provide valuable testimony about the outcomes of your program. They should be able to supply objective information, facts, or data on the outcome of your program, not just “rubber stamp” statements. Interview more than one expert in order to obtain a fuller picture of the outcomes of your program. An expert might be a park ranger familiar with the trail maintenance service of AmeriCorps members or a biologist at the local university who monitors the water quality and fish population in the local streams. The local watershed management expert can explain why building a pig fence helps maintain the local watershed (wild pigs dig up plants, thereby increasing soil erosion).

Community Collaboration




Obtain additional resources for your evaluation. Collaborate with local environmental organizations or universities. They may be willing to provide scientific expertise, instruments, training, or people to help your program collect and analyze data. Use existing information whenever available and appropriate. Local government agencies, universities, or nonprofits may already collect environmental data that you can use in your evaluation, such as recycling, water quality, hazardous waste sites, park use, or local animal population. Be sure it is appropriate to the service you are doing. For instance, if your recycling program targets a single neighborhood, countywide recycling statistics may not be an appropriate yardstick for measuring your outcome.







III. Instruments - The Hammers and Saws

Instruments are the “hammers and saws” used to implement your evaluation. They are the tools used to measure the services of your program and collect information needed to determine your outcomes. As with carpentry, there is not an all-purpose tool; you need special tools for particular tasks. Therefore, the more specific the instrument is to your measurement task, the more likely you will achieve a high-quality result. This section discusses data collection methods and instruments. The table below summarizes commonly used methods and instruments for collecting data. See Chapter 3 or “Instrument Development” in the reference section for more information.

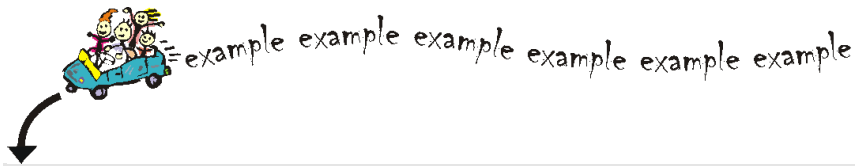
Typical Environmental Methods and Instruments

<p>Surveys Examples: recycling, quality of life (neighborhood beautification, trash cleanup), user assessment (parks, playgrounds), service-learning, environmental maintenance, and restoration</p> 	<p>Advantages: Tally and summarize quantitative data to discern trends.</p> <p>Constraints: Logistic effort required to collect, aggregate, and analyze data.</p>
<p>Interviews</p> 	<p>Advantages: Key informant interviews provide rapid insight into program impacts.</p> <p>Constraints: Informant must be knowledgeable and objective.</p>
<p>Focus Groups</p> 	<p>Advantages: Provides a wealth of views and information.</p> <p>Constraints: Requires experience to moderate and analyze data. It is also time-consuming.</p>

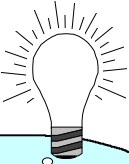
<p>Scientific Data, Standard Field Tests, Field Logs Examples: chemical or biological analysis, species counts, survival rates</p> 	<p>Advantages: Well-accepted, objective measures of change.</p> <p>Constraints: Needs equipment, training, and expertise.</p>
<p>Checklists, Inspection Forms, and Standards Examples: environmental maintenance and restoration, energy efficiency for housing, trash cleanup</p> 	<p>Advantages: Easy to record and analyze.</p> <p>Constraints: May not tell the full story; person conducting inspection needs training.</p>
<p>Observation Guides Examples: environmental maintenance and restoration, species counts, survival rates, trash cleanup</p> 	<p>Advantages: Easy to record and analyze.</p> <p>Constraints: May not tell the full story; observer needs training.</p>
<p>Photographic Records Examples: environmental maintenance and restoration, water quality, species counts, trash cleanup</p> 	<p>Advantages: Low-cost, easy, can show results effectively.</p> <p>Constraints: Only appropriate with clear, visible impacts.</p>

M obtain these materials to build your evaluation. Data collection involves administering instruments, gathering responses, and organizing responses before analysis. The following provides tips and considerations on data collection. See Chapter 4 or “Data Collection” in the reference section for more information.

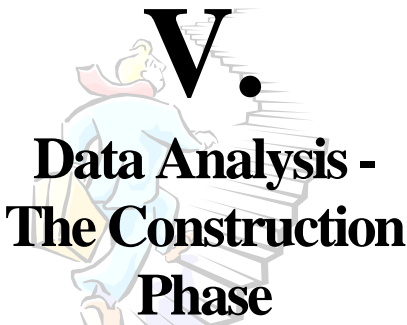
IV. Data Collection -- Gathering the Raw Materials



A stream restoration project may clean litter and remove large obstacles (e.g., shopping carts) that impede water flow. To document outcome, the program keeps detailed photographic documentation of the project site, both before and after the service begins. This method can show the amount of debris removed in a specific location, as an indicator of water quality. For reporting purposes, use a before and after visual assessment by a partner agency that ranks the site on a scale of one to five, with one being “pristine” conditions and five being “severely degraded.”



Tip: Use inspection forms and checklists. A checklist might specify parameters for assessing the quality of home weatherproofing service conducted by AmeriCorps members. A qualified inspector would use the checklist to evaluate the service upon completion. Develop similar service quality checklists for erosion control, trail construction, and other activities. AmeriCorps programs also use checklists for successful service-learning projects. Items can include whether the service project was integrated with the school curriculum, involved kids in the community, or provided opportunities for reflection.



V. Data Analysis - The Construction Phase

Devaluation, where you create a structure from your raw materials. The process of data analysis includes deciding on the appropriate analysis to conduct for each question or test item, preparing data for analysis, analyzing the data, and summarizing the results. For outcome data, the results of analysis should enable you to answer the question “What changed for your service recipients during your program year?” Analysis is the point at which many AmeriCorps programs encounter difficulties that thwart the evaluation process. Programs conducting scientific measurements (e.g., species count, water quality measures) can rely on AmeriCorps members to collect and analyze data, making them an integral part of the outcome evaluation process. Training members to carry out analysis tasks is a valuable experience and a good way to allocate resources to your evaluation. The table below summarizes possible data analysis techniques for various instruments and data collection methods. See Chapter 5 or “Data Analysis” in the reference section for more information.

Data Analysis Techniques for Common Methods and Instruments

Methods and Instruments	Quantitative Analysis	Qualitative Analysis
Survey	Counts, frequency distributions, percent changes, averages, ranges, and deviations from averages.	Interpretation and summary of responses to open-ended items in the surveys.
Interview	<i>Not applicable</i>	Interpretation and summary of responses to open-ended questions.
Focus Groups	<i>Not applicable</i>	Interpretation of verbal feedback from focus group participants.
Scientific Measurements, Standard Field Tests, Field Log	Counts, changes in measurements (ppm, pH, temperature, etc.), survival rates, frequency distributions, percent changes, averages, ranges, and deviations from averages.	<i>Not applicable</i>
Checklists, Inspection Forms, Standards	Tally and summary of checked items.	<i>Not applicable</i>
Observation Guide	Analysis of numerical recordings.	Interpretation and summary of observations and comments.
Photographic Record	<i>Not applicable</i>	Interpretation of photos. Be sure to provide captions explaining the content of the pictures.

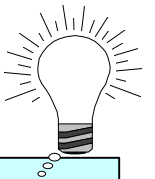
Reporting your results serves a similar function as an “open house” for a completed home. It lets consumers and funders know what you have accomplished. Reports can range from informal talks on the results of your evaluation to formal progress reports. In general, reporting your evaluation results should include a summary of your objectives, an outline of the steps you took in evaluating your activities, and a brief description of the instruments you used to collect data. It should provide the relevant statistics or qualitative information from your data analysis as well as stories or examples to illustrate your accomplishments. The following are tips and considerations for creating your report. See Chapter 6 or “Reporting Your Results” in the reference section for more information.

VI. Reporting - The "Open House"



Tip: A picture is worth a thousand surveys.

Keep detailed photographic records of work sites; they are excellent support. For reporting purposes, enhance the value of photographic records by including an observation scale.



Tip: Short-term vs. long-term indicators.

Be sure to report on short-term (e.g., one program year) indicators of outcome, even if your results will only be observable in the long-term. Report on your long-term results as they become observable or measurable.





Tip: Show how you integrate your service with local or regional environmental efforts.

Many programs addressing environmental issues, whether serving to protect watersheds or to reduce urban stream pollution, operate in the context of larger, integrated environmental efforts. You can emphasize the purpose and relevance of your program by describing how its activities fit in and contribute to the larger effort. This information will provide a background for reporting your outcome evaluation results.

Although you report your evaluation results to your state commission, parent organizations, and the Corporation for National Service, community groups and organizations may also be interested in your achievements. These groups may include potential partner organizations, such as local environmental nonprofits, or service recipients, such as schools participating in your service-learning program. Reporting to the public at large will also help your program “take root” in your community. Consider the potential audiences for your report listed in the table below.

Potential Audiences for Reports

Environmental management agencies	AmeriCorps members and staff
Private environmental organizations	Nonprofit environmental agencies
Environmental clubs	Schools and universities
Local community	Local governments



Tip: Tailor the content of your report to the audience. Include information that is more technical when reporting to an audience with a scientific background. However, it is always important to highlight your program’s key achievements – its impact on the environment and on service recipients.