1995

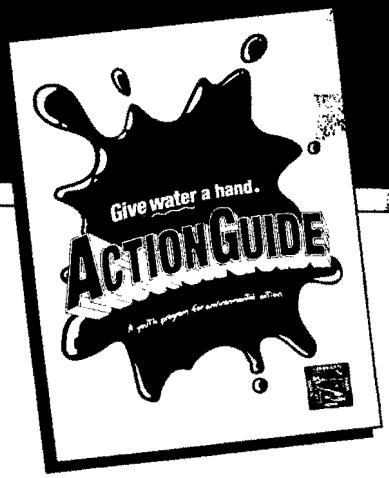
Give Water a Hand: Leader Guidbook

Give Water a Hand

Give Water a Hand®

Leader Guidebook

accompanies the Give Water a Hand
Youth Action Guide



NSLC
c/o ETR Associates
4 Carbonero Way
Scotts Valley, CA 95066

Contents

Give Water A Hand

Participant Registration

Please take just a minute now to register with Give Water A Hand. To register, simply fill out the information below, tear out and fold this page, and return it to the address listed on the the reverse.

Registering with Give Water A Hand will:

- enable us to send you information about trainings and updates on the program,
- keep you informed of future award or recognition programs for Give Water A Hand participants, and
- make sure we can measure our impact!

TEAR HERE

Name _____

Organization _____

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City _____ State _____ Zip _____

Phone — daytime ( ) _____ evening ( ) _____

Tear out this sheet, fold in thirds and mail it to the address on the reverse.

Or sent it by FAX: (608) 262-2031

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place
stamp
here

Give Water A Hand

University of Wisconsin
216 Agriculture Hall
1450 Linden Drive
Madison, WI 53706

Congratulations!

By opening this guidebook, you've taken the first step in helping young people Give Water A Hand. Here you'll find step by step guidelines for helping your youth group or class (ages 9 - 14) make a difference for their community and the environment. This Leader Guidebook is for you, the youth leader, and accompanies the Action Guide, written for youth.

As adults, we know there are environmental problems that need our attention. Unfortunately, we don't always know how to help or take actions to solve the problems. Young people care about the environment, too, but like us, they don't always know how to help. What we can do is support young people as they learn what to do and as they make commitments to act. The steps in Give Water A Hand provide youth with the skills and knowledge to make their own decisions about how to help, using their own unique talents and interests.

How can my group make a difference?

Like most things, the answer lies right in your own backyard. Get to know your watershed! That's where you'll really learn what problems exist and devise solutions that will make a difference to your own community. We've included several success stories in the beginning of the Action Guide; they'll show you how others defined a problem, planned a manageable solution, and made a real impact.

Water education can and should be fun! As leader, your primary role is to help your group to act. You don't have to know a lot about water — you can get help from a local water resource expert (we'll tell you how). Information, ideas, resources and equipment are all around you. Help your group tap these resources to Give Water A Hand!

Why focus on water?*

Despite over 20 years of the Clean Water Act and great improvements in water quality, we still face many unsolved problems with our water resources. Runoff from urban and rural lands, and pollution from both industrial and residential sources threaten water quality. Yet there are many steps we can take to protect our groundwater, lakes, streams and other aquatic ecosystems, which provide drinking water, recreational opportunities, and vital fish and wildlife habitat. Because all life depends on water, we share a responsibility to define and meet these challenges for the sake of individuals, communities, and the organisms that depend on aquatic habitats. **Portions of this section from WQ2000 report.*

Introduction

Overview

What is the Leader Guidebook?

The Give Water A Hand materials consist of a Leader Guidebook, written for you (the youth leader or teacher) and an Action Guide, written for youth. The Leader Guidebook accompanies the Action guide to provide you with:

- The background and research behind the Give Water A Hand project (back cover)
- Background information and goals for each step found in the Action Guide (page 5–21)
- A description of service-learning strategies and useful skills for leaders (pages 22–24)
- A list of project partners, with suggestions on ways they can help your group (pages 29–33)
- Tips for adapting Give Water A Hand for other audiences (pages 25–27)

Getting Started

1. Skim the Action Guide to familiarize yourself with the steps and flow
2. Review the project roles for youth, leaders and partners (next page)
3. Develop a timeline for doing a project (see next page)
4. Arrange for your group to work with one or more water experts (partners) (next page)
5. Obtain a topographic map that covers your project area (page 10)

Goals and project benefits of Give Water a Hand

Goals

- Protect and improve local water quality and quantity
- Involve young people in investigation and action on local water problems
- Support young people in using their existing skills and interests
- Encourage voluntary action
- Focus on watersheds as a unit of study in solving local environmental problems
- Establish and encourage links between youth and community natural resource professionals.

Project benefits

for young people:

- learn about family and community water quality and conservation issues
- make a difference to real-world problems
- learn and practice life skills
- gain exposure to natural resource management careers through partners listed on pp 29–33

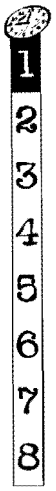
for organizations:

- address an issue of concern to youth
- tap the resources of a national network of experienced water professionals
- be recognized for their efforts

for communities and the environment:

- involve youth in addressing water-related needs through service projects
- gain youth who are active citizens and stewards of the environment

Project Timeline - Keeping on Track!



This timeline diagram appears throughout the Action Guide to help you keep on track and stick to your schedule and keep on track. In order to complete all the steps in the Action Guide, you'll need a minimum of seven to nine meetings, each an hour or two long:

4 meetings to research and identify a problem, then plan and prepare projects

2 - 3 meetings to carry out your project, depending on what you choose to do.

1 - 2 meetings to wrap up, celebrate success and reflect on the experience.

It may be helpful to think about your last available meeting date, and plan backwards. Always build in a little extra time for unexpected obstacles. Page 16 of the Leader Guidebook has a worksheet with questions that may be useful now in helping you and your group plan your project.

Project roles

Role of Youth Participant

A 1993 Louis Harris poll of over 10,000 children in grades 4-12 found that young people prefer after-school activities where they choose what they will do. The survey also found that kids want to work on environmental problems to help improve their communities, but they want to be in charge of deciding how. Give Water A Hand materials are designed to help young people do this by providing simple steps and basic information about water so they can make their own decisions about how to act and what to act on.

Youth participants in Give Water A Hand will:

- Investigate local water issues
- Talk to experts about issues and possible projects
- Choose a project based on their research that matches their own interests and skills
- Plan how to carry out their project
- Complete the project and celebrate success

Role of the Leader

The more young people plan and manage their own projects, the more they learn. Your role is not to be an expert on water issues, but to be a coach and mentor of young leaders. Follow your own judgment about when to urge the group on, when to hold them back, and when to comfort them and help pick up the pieces.

In Give Water A Hand, you, as leader, will:

- Link young people to water experts in the community, including project partners
- Manage the project, and keep your group true to its timeline
- Act as a guide who monitors and encourages rather than directs
- Create opportunities that foster an environment for learning
- Empower young people to be active stewards of the environment
- Help participants think through plans, recognize flaws, and make adjustments
- Support young people when they make mistakes
- Applaud young people when they succeed

Role of Project Partners

Work with a local natural resources expert(s), a "project partner" who can help plan and complete a project. You may already be working with one or more partner organizations. If not, contact one of the organizations listed on pages 29–33; some have local contacts. Some even have service programs your group could join. If you need help in finding a partner, see the back cover of the Action Guide.

Partners may be able to offer:

- supplies such as tree seedlings, storm drain stenciling kits, and water testing equipment
- ideas for service projects
- technical assistance in planning and completing a project
- materials such as posters, maps, or video tapes

Leading projects: step by step through the Action Guide

You'll notice that most of the detail and instruction for Give Water A Hand activities are in the Action Guide. We do not repeat that information in this Leader Guidebook. Instead, this guide gives you an overview, with summaries of each step, background information, and instructions that may help in completing some steps, such as reading topographic maps.

The Give Water A Hand Action Guide follows a simple sequence:

- Steps 1 through 4 quickly immerse young people in researching real local needs for specific water management practices
  1. Focus on Water
  2. Research Needs
  3. Map your Watershed
  4. Ask an Expert
- Steps 5 and 6 help them choose and plan a service project for their site in response to an identified need
  5. Choose a Project
  6. Develop a Plan for Action
- Step 7 offers tips to help projects run smoothly and to keep kids going. Some of these tips may be useful right away.
- Step 8 encourages youth to celebrate the success and plan for the future.
- The Skills Bank in the Action Guide (pages 62–64) provides some strategies and skills to help the group with their projects, such as how to conduct interviews, or how to get information over the phone.
- The Get Partner Support section on the back cover is useful early in planning, so you can tap partner resources before starting a project.

Depending on the age and experience of participants — and on the amount of time available — you may adapt, combine, re-order, or eliminate activities as needed. But be careful — it is natural for a group to get impatient to "just do the project" instead of talking. Stress from the beginning that the group will do a water-related service project, and that research and planning is necessary to make sure that the project meets a real need and is done well.

Sample activity flow chart

Below is a sample flow chart to help you visualize your time and help you plan your Give Water A Hand project. There are samples for both weekly and monthly group meetings. The weekly schedule assumes 16, each one hour in length. The monthly schedule assumes five meetings, each two or three hours in length. Of course, your actual time may vary depending on the service project chosen by the group.

Step	Activity	Goals	Weekly	Monthly
	Partners	Link up with a natural resources expert for help with project	As needed	As needed
1	Focus on water	Learn about water issues and watersheds; make a commitment to doing a project	Week 1	Month 1
2	Checklist	Make a site map and complete checklist to research needs	Weeks 2–3	Month 1
3	Map your watershed	Map your watershed; understand your project in the context of your own watershed	Weeks 4–5	Month 2
4	Ask an expert	Get input and help from natural resource experts (project partners)	Week 6+	Months 3–5
5	Choose a project	Choose a manageable project that matches interests and skills of group members	Week 7	Month 3
6	Plan your project	Set goals, plan strategies and divide tasks	Week 8	Months 3–5
7	Keep on track	Begin the project, adjust plans, complete the project and collect evidence of success	Week 9+	Months 3–5
8	Celebrate success	Celebrate, reflect on how the project went, and begin planning for the next one	Week 14	Month 5

Activity 1: Focus on water

Preparation and time

Preparation

Have an Action Guide for each participant or enough to share comfortably.

You'll need topographic map of the area for Activity 3. Order one using the instructions on page 10.

If group members don't know each other, use the team-building games on page 23.

Time

45 minutes (90 minutes if you do both team building games)

Goals

- Group members get to know each other, if necessary.
- Youth gain or reinforce a basic understanding of why water is important
- Youth are introduced to some potential water concerns
- Youth understand the watershed approach and visualize their watershed
- The group commits to doing a project

Key Points

- All life depends on water.
- Only 1% of water on Earth is liquid fresh water available for human consumption.
- It is important to use water wisely.
- Our personal actions affect water quality and conservation.
- To solve water problems, we need to consider all the uses and impacts on water within our local watershed.
- You can make a difference in water quality today and for the future
- Through research and planning — and with the help of partners — our group can complete a water-related service project.

Background*

Why Water?

Why focus on water? It's simple: Because water makes all life possible. It connects all livings things today and through time. In a never-ending cycle, water is used and reused by animals, plants and people. The water in our environment today is the same water that was available to the dinosaurs millions of years ago.

All living things depend on water — plants need it for photosynthesis; animals need it to drink and to provide for their food. Water is used by animals for habitat, to provide food, shelter, and nesting or breeding sites. Wetlands function as sponges to moderate changes in water level, preventing floods. People use waterways for recreation, transportation and industry. Water in all its forms transports living and non-living ecosystem components over the Earth's surface, in the ground, and as vapor and precipitation. Human bodies are made up of two-thirds water. And water provides us with a place to have fun!

Only a small percentage of the Earth's water is available for human use in agriculture, industry, recreation, and at home. If all of the water used in our country each day were divided by our population, each person would "use" 2,000 gallons each day. It takes 25 gallons of water to grow an ear of corn, and over 100,000 gallons to make a car. If drinking water that comes from a convenient, inexpensive source (such as a well or river) is used up, communities must pipe water in from farther away, increasing costs and creating potential environmental problems (such as changing animal habitat in a river from where water is drawn).

The amount of water available for human use depends not just on quantity, but also on its condition, or quality. With a growing population, whose complex needs often put water quality at risk, maintaining or improving water quality is a challenge. Water pollution can

*Portions of this section adapted from "Be WaterWise," Virginia Water Resources Research Center, 1983, and Dyckman, 1981.

occur from point sources or non-point sources (see the article on water pollution).

We have a responsibility, individually and as a society, to protect water resources for the health of the ecosystem and for ourselves. We may act as individuals by not putting hazardous materials down the drain at home, or we may adopt creative technologies as a society to take care of our natural resources (see the article on Biosolids).

A Focus on Watersheds

A watershed is the area of land where all water drains, or "sheds," to the same river, lake, reservoir or other body of water. Larger watersheds — the Mississippi River watershed, for example — encompass many smaller watersheds, such as the Wisconsin River watershed and the Missouri River watershed.

People understand that it's best to manage environmental issues in a coordinated fashion. Since most natural events and human activities affect the quality of water resources within a local watershed's boundaries, watersheds now seem to be the most sensible unit in which to restore and protect water quality. Focusing on watersheds is particularly appropriate in community service-learning projects. Water ties people and the environment together. Human impact on the landscape in one watershed might well affect aquatic life in a stream, which could change the chemical composition in a lake ecosystem downstream in a second watershed, which might in turn affect the second watershed's local community. Addressing environmental problems using a watershed approach helps young people understand these interconnections between people, communities, and the environment.

The most obvious human interactions with water take place on the surface, yet much of what happens in the watershed is out of sight, in the groundwater. To understand a watershed better, you should know something about the soils, geology and aquifers. See the article on Groundwater. This is especially important when your project deals with wells or groundwater contamination. Give Water A Hand partners can help you get more information on the groundwater system in your area.

What are biosolids?

Most communities have a wastewater treatment plant that produces biosolids — nutrient-rich organic material that can be used beneficially as compost or fertilizer in gardens or on farms to produce greater crop yields. It's even used to fertilize the White House lawn. Using biosolids helps conserve water and decrease runoff or soil erosion by adding organic matter to soil, which captures water. Some communities package their biosolids in a compost mixture and sell it in local garden stores.

Water pollution

We usually speak of two sources of water pollution, "point source" and "nonpoint source." Point source pollution comes from a specific source, like a discharge pipe at a factory. Because these sources are relatively easy to locate and citizen concern has helped reduce these sources, problems caused by point source pollution have decreased in recent years.

Nonpoint source pollution is associated with sources that aren't so easy to pinpoint — surface water runoff from streets or fields and other sources following rain storms or snow melt. Contaminants that are carried to nearby waterways may include soil sediments, animals wastes, or pesticides. Groundwater may also be affected by nonpoint sources like farms, private sewage systems, improperly capped well pipes and leaky fuel storage tanks. Pollution from nonpoint sources is not only harder to pinpoint, but is more difficult to regulate. One way to reduce this type of pollution is to educate people about when and how to apply fertilizers or pesticides, how to reduce runoff from construction sites, or how to create and protect vegetation buffers along streams.

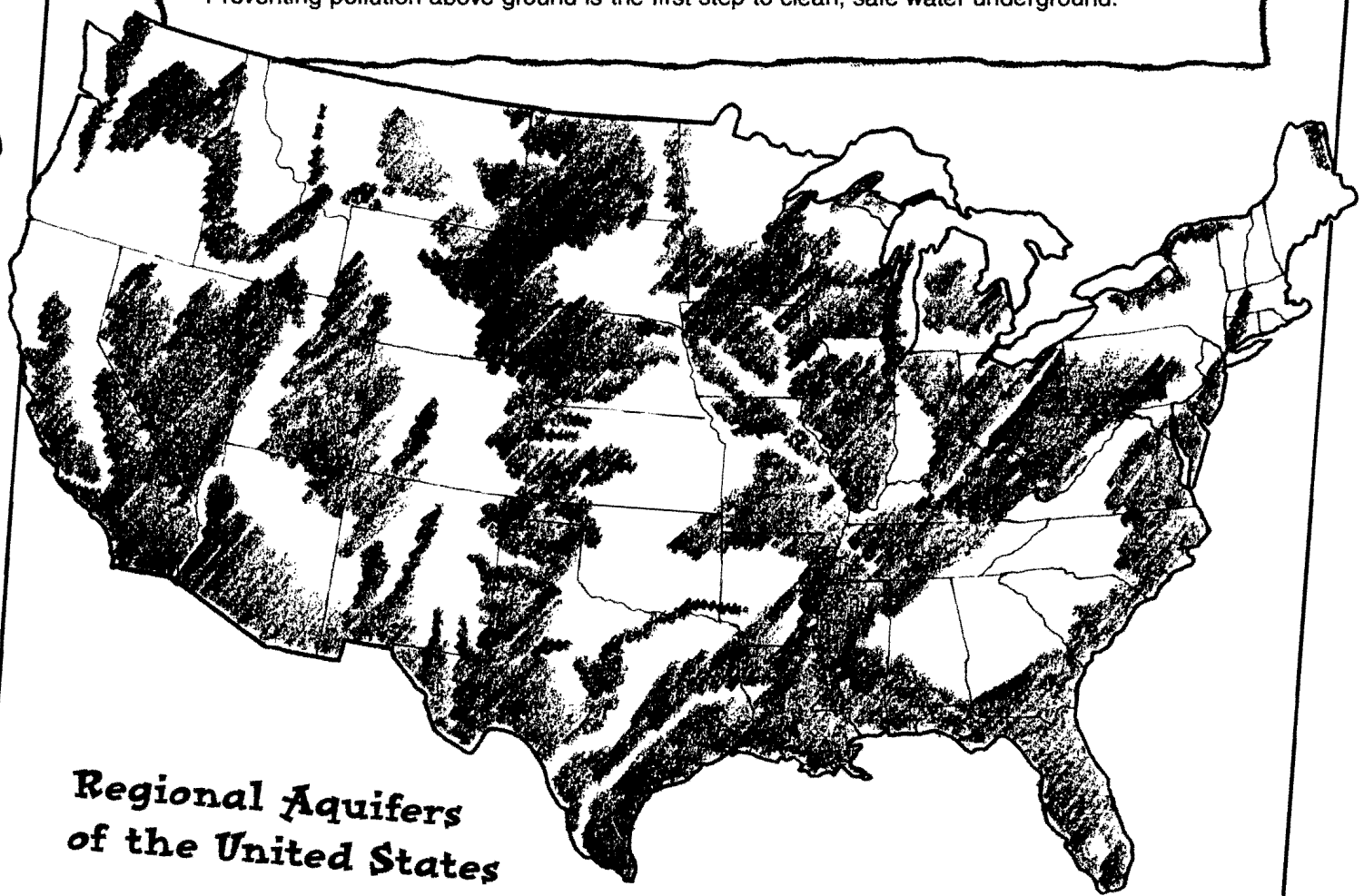
Groundwater

Does your water come from the surface or groundwater? People in Chicago get their drinking water from Lake Michigan. Bridgeport, Connecticut relies on surface reservoirs for its water supplies. Nearly half the U.S. population, however, including most rural residents, rely on groundwater for their water.

Many people think of groundwater as underground rivers. In fact, groundwater flows very differently from surface water. Groundwater fills the spaces between particles of sand and gravel, or inside the cracks of rocks. Collectively, these spaces make up zones called aquifers, which act like giant sponges that hold large amounts of water.

Groundwater presents special challenges for detecting and eliminating pollution. Because groundwater is out of sight, it's harder to detect contamination. And eliminating groundwater pollution is costly and difficult. When detected, contaminants are impossible to remove completely. And use of groundwater means that recharge of groundwater supplies must take place — a very slow process.

That's why it's so important that we take steps to protect our valuable water sources. Preventing pollution above ground is the first step to clean, safe water underground.



Regional Aquifers of the United States

Activity 2: Research needs

Preparation and time

Preparation

Discuss the "Checklist" with the group. Explain how it is used by students to investigate potential water concerns.

With the group, choose a site to focus on (home, school, community or farm). See "Site Focus" below in the Background information.

Read over the questions carefully to be sure you can explain how to answer each question.

The group may need permission from a parent, teacher, farmer or other authority to do the Checklist. Be sure the group understands why it may be important to have permission. In some cases, the group may be visiting private property. Some questions on the checklist need to be answered by the person in charge, such as the maintenance person, head cook, landlord, etc.

Make enough copies of the Checklist for each individual or research team.

Time

Two hours or more. Some questions require tests or information that take time to gather. You may start the checklist at one meeting and complete it at the beginning of the next.

Goals

- Youth understand how water management practices result in water conservation and better water quality.
- Youth identify needs for effective practices.
- Youth learn to decide which needs are most important.

Key Points

- Research can help identify real needs.
- Service-projects selected from research should meet a real, local need.
- Documentation (taking notes) is an important step in research.

Background

The Checklist is used by youth to investigate potential water concerns at their chosen site. The questions are written so that young people learn while identifying the concerns themselves, with help from the leader, experts and people in charge when needed.

Site Focus

There are four Checklists included in the Action Guide, each with questions focusing on a different site: Farm/Ranch, School, Community, and Home.

Before you begin, your group will need to decide which site will be the focus of your efforts and use the appropriate checklist. If you are a class with limited ability to leave the school yard, you'll probably choose a school site. Or your group may have an interest in working with neighborhood businesses, in which case you'll use the community site checklist. Kids may want to complete investigations at their homes or farms individually, using the appropriate checklists, and share their results as a group. If you are in a camp setting, using the school site checklist is appropriate (see page 27).

If your group hasn't decided on a site focus, review all four checklists to get a feel for the types of questions and potential issues at each site. Together, you can choose the site that is most interesting and accessible for them.

Tips for using the Needs checklist

- How much time do you have to do a service project? Look back at your timeline.
  - Your group may want to split into teams to answer questions
  - If your group gets stuck on complicated questions, skip these and come back to them later if there is time
- What will the weather be like when you do your service project?
- How much time do you and other adults have to supervise and help with the project?
- Is there a project you can join ?

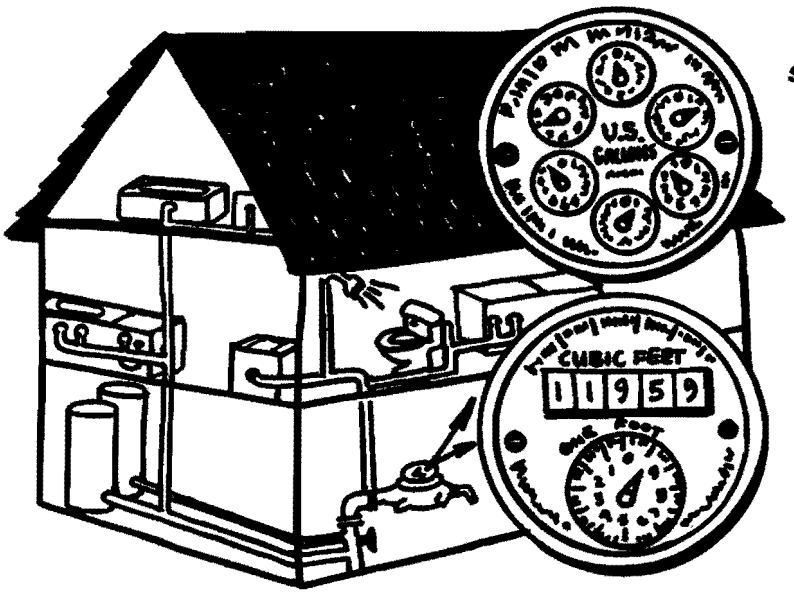
Setting Priorities

Once your group has completed the checklist, they will need to set priorities on the problems to help identify a service project. The top priority issue or problem may be obvious, or it may seem that everything is important. One way to narrow the choices to one or two is to have group members vote for their top three priorities.

Reading a water meter

Some questions on the Checklists require the students to read a water meter. There are two basic kinds of meters. The single-dial meter is read like the mileage meter of a car, except that the last digit "0" is printed on the water meter. The needle on the dial shows you how many more gallons you should add to the number of gallons in the window.

The six-dial meter is a little more difficult to read. Begin by reading the dial labeled with the largest number, usually 100,000. Then read the dials clockwise. The labeled numbers of each dial will be smaller. Record the numbers indicated by the needles on each dial. If a needle points between two numbers, record the smaller number (except when the needle is between 0 and 9, record 9). Some meters measure water in cubic feet instead of gallons, but you can read them the same way. A cubic foot of water equals about 7.48 gallons.



six-dial meter

single-dial meter

Activity 3: Map your watershed

Preparation and time

Preparation

Read through this activity carefully in advance; if you are not comfortable using a topographic map, see Using Maps in the following section.

See Materials Needed on page 41 in the Action Guide.

A builder's blueprint of the site buildings may be helpful.

To complete the Watershed Map, the group will need to identify the location(s) where water comes from, where wastewater goes, whether surface runoff goes into storm drains, and where the drains empty. You may wish to find this information in advance or have one of the group members do so. Contact the local water utility, or see American Water Works Association in Project Partners, page 29.

Time

90 minutes.

Goals

- Your group draws a map of the watershed where the project site is located.
- Group members understand what a watershed is and can describe the watershed, including water sources and drainage patterns
- Young people understand how they are connected to the environment and their watershed.

Key Points

Water issues are best understood in relation to watersheds; i.e., things dumped on the ground may eventually end up in a stream, lake or well.

Basic information about your watershed helps in understanding water issues. Group should be able to answer questions like:

- Where does the site's water come from?
- Where does wastewater go?
- Where does surface runoff flow from the site?
- Why/How does your priority problem (from Needs Checklist) affect water quality or quantity in our community?
- What happens in your watershed that creates the problem you have identified?

Background

How to Obtain a Topographic Map

1) Look under "maps" in the Yellow Pages of the phone book to see if there is a place to purchase maps in your area, or ask your local Soil and Water Conservation District office for the nearest source.
2) Or call Give Water A Hand at 1-800-WATER20 (1-800-928-3720) to find out which maps you need for your area and how you can order them.
3) You can also get an index for maps in your state directly from The United States Geological Survey (USGS) by calling 1-800-USA-MAPS. The index will take about four weeks to arrive and you'll still need to order your maps. Standard maps cost $2.50 each from USGS and are generally more at map stores.

Helpful Activities to Explain Maps

Start by drawing a map of a very small area such as a table. Measure the table and draw its outline on a piece of paper. Then look down

at it and "map" each item on the table so it appears to be relatively the right size and distance from the others. Now draw a map of the room, showing all the furniture as if you could see it from the ceiling. Next draw the building and grounds as though you could see them from a plane. This is similar to what the group did when it made a site map.

Explain that USGS maps are made from aerial photographs. Imagine what it would be like to fly in a plane over your site. What would you see?

One way to explain different elevations shown on a topographic map is to pretend to walk along a road on a map (or a trail if there is one). Look at your topographic map and determine where on the road the slope be steepest. Figure out how high a particular hill is. Relate that height to something familiar such as a tall building which is ten feet per floor. Are there any cliffs on along the road? Which part of the road would you find the most interesting scenery? Which part of the walk would be the hardest?

If your group needs help reading contour lines, see "Using Topographic Maps" below.

Using Topographic Maps

Topographic maps depict an aerial view of land. They use contour lines to show the elevation of land areas. These lines are sometimes called level lines because they show points that are at the same level or altitude. The ***top*** drawing [at right] is a contour map showing the same hills which are illustrated in profile in the ***bottom*** drawing. On this particular map, the vertical distance between each contour line is 10 feet.

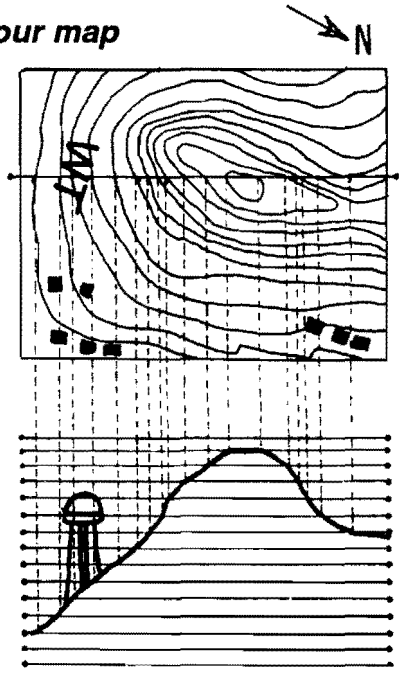
Lines that are close together show steeper slopes. Lines that are far apart show flatter terrain. Streams on topographic maps often intersect the points of a series of Vs or Us in the contour lines where the Vs point up hill. Hilltops are where contour lines connect to form circles or ovals. They are illustrated as the smallest center circle.

USGS maps use brown ink for topographic lines. Every fifth line is an index line which is bolder and gives a number indicating its altitude above sea level. Waterbodies are in blue. Buildings and other human-made structures are in black. Green shading indicates wooded areas. Important roads and survey system marks are in red. Purple features were added from aerial photographs during map revision and have not yet been field checked.

Each map has a scale, which is the relationship between distance on a map and the corresponding distance on the ground. The scale is expressed as a ratio, such as 1:24,000. The smaller the second number, the more detail the map has. You need to make sure you have a topographic map with a small enough scale so that you will be able to find specific streams, buildings and hills on your site. A good choice for local watershed mapping using USGS map scales is 1:24,000 (also known as 7.5 minute quadrangle maps). Your site may be on the edge of a map, or your watershed may cross two map sheets, in which case you may need two or more maps.

Check the date on your topographic map to see how recently it was made. A current, detailed street map can help you fill in new construction and other changes as you map your watershed. You will also need a street map to fill in details that are off the edge of your map. USGS also sells aerial photographs of most areas, and they may be helpful in locating landmarks (such as your school, a patch of woods, or a road).

contour map



Activity 4: Ask an expert

Preparation and time

Preparation

Use the Get Partner Support section on the back cover of the Action Guide to review the benefits of working with partners. You may wish to invite a local expert other than existing partners in order to expand your network, to provide a different perspective, or to obtain information on a specific topic. You may wish to invite more than one expert to present alternative views. In any case, be sure that your group hears differing perspectives. See Handling Controversy below for tips. Make sure the guest is invited well in advance, be clear in communicating the goals of the meeting, and confirm his or her attendance a few days before the meeting.

Time

60 minutes.

Goals

- Group members meet with a local water expert or partner to learn more about local water issues and gain input on group research and priorities.

Key Points

- Local water experts and partners can provide helpful information, ideas and resources for projects.
- Experts can share community priorities and connect youth to ongoing projects.
- It is important to respect other people's input and time.
- A thoroughly prepared agenda and questions will facilitate meeting with an expert.
- A discussion with the expert will be more useful if it focuses on the group's specific site.

Background

The role of an expert or Give Water A Hand partner is varied, and there are many places throughout your project where they can help. They can help your group review what you have found through researching needs and mapping the watershed; this can be a good opportunity to analyze the priorities. Experts can share their experiences working on local problems and possibly link you to on-going projects. They might know how to find funding for your project. Many of the national partners have materials and resources to help you.

Check with your potential partner to learn their goals for involvement. Partners and experts may wish to be involved with your group from the beginning.

Even if you are already part of a national or local network of organizations, review the national partners list (on pages 29–33) to decide who might best be able to help your group. Some of these groups operate primarily at a national level, but others have local offices. See Get Partner Support on the back cover of the Action Guide for ideas on contacting local water experts.

Use the following checklist to help keep your partnerships with experts and others on track.

Partnership checklist

(All questions refer to both ends of any partnership.)

- ☐ Is there general agreement on long-term goals?
- ☐ Are goals and objectives within reach?
- ☐ Do all partners have a share in deciding goals and objectives and the rules by which they will be achieved?
- ☐ Do partners have a sense of belonging, a feeling that they are needed to achieve long-term goals?
- ☐ Is there a feeling that what partners contribute has real purpose and contributes to the broadest of goals?
- ☐ Can partners see progress being made?
- ☐ Is there confidence in the people in leadership roles, based on their credibility, fairness and consistency?
- ☐ Are partners kept well-informed?
- ☐ Are all partners flexible and responsive to change?
- ☐ Is there a climate of mutual trust among partners?
- ☐ Do partners respect one another's organizational rules and procedures?
- ☐ Is there positive recognition of contributions?
- ☐ Is the partnership fun and satisfying? Does everyone feel a part of things? Are things getting accomplished to benefit the whole?

(Adapted from *Keep America Beautiful*)

When experts disagree: handling controversy

Try to make sure your group sees and hears a balance of people, information, and materials. Eliminate bias by inviting organizations with a different positions to tell their side of the story. Responsible environmental education does not promote a particular viewpoint, but presents a range of evidence and views and helps youth learn to judge evidence for themselves. Participants in Give Water A Hand will work with real people and explore real issues from many viewpoints.

Are you hearing the whole story? Ask participants to divide into two groups, each side arguing a different point of view. Then, as one group, discuss what you learned about the other side's case. Point out that several people can each be honestly telling the truth as they see it and still disagree.

Activity 5: Choose a project

Preparation and time

Preparation

Complete Project Nuts and Bolts Worksheet that follows to help define limits (group members may be involved in completing this worksheet).

Review the "Will it Work" questions for youth in the Action Guide (page 49).

Contact your local and national partners to find out if they can suggest projects.

Time

90+ minutes if the group doesn't know what project it will do.

60 minutes if the group has chosen a project and just needs to identify group resources and define tasks.

Goals

- Group members choose a service project that meets a real need.
- Group evaluates chosen project to make sure it matches their skills and interests, and that it is appropriate for the site and amount of time and resources available.

Key Points

- Reviewing the Watershed Map, Checklist, and notes from the expert interview will insure the project meets a real need.
- Completing the Choose a Project chart will insure the project matches the skills and interests of group members.

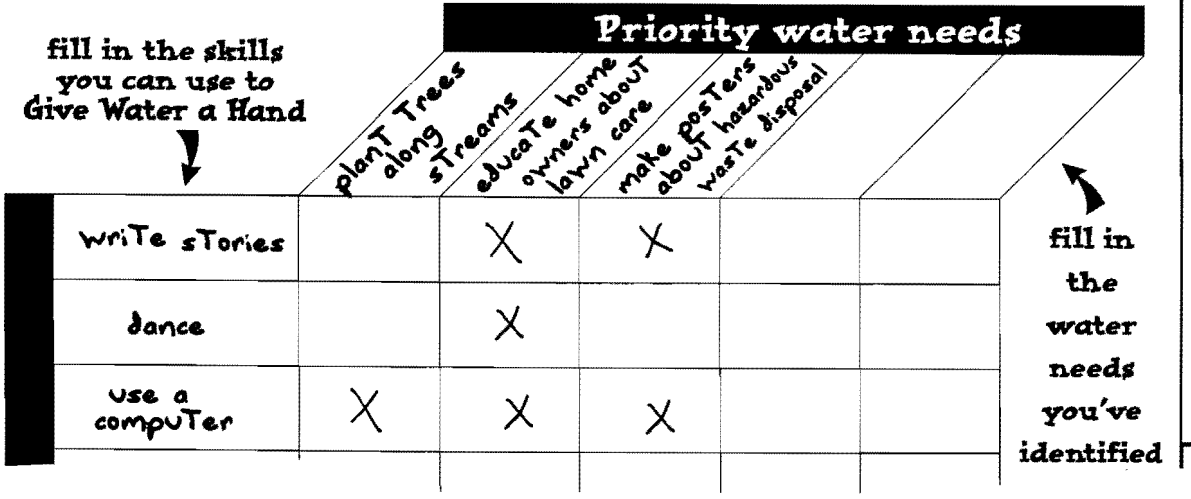
Background

In this step, group members will decide on a service project, or evaluate one they have chosen to make sure it meets their skills and interest. In choosing a project, it is important that the group review what it has learned from the Checklist, Watershed Map and interview with an expert.

The Project Nuts and Bolts Worksheet was created to help you and your group identify whether your chosen project is realistic to take on. Some questions need to be answered by you and others need to be answered with help from your partners. There may be an existing project your group could join.

If your group still has trouble deciding on a project after this exercise, review the lists of project ideas in the Action Guide. The ideas are broken down into four lists by site (school, community, farm/ranch, home).

...the Choose a Project chart...



Finding Time for Service Projects

The group will need a few hours outside regular meeting or class time in order to complete a service project. If this is impossible, make sure the group's project can be done in the time available. Parents or volunteers may be willing to help supervise service work. Partners can provide much-needed help also. If yours is a school-based program, you should link service-learning to the overall curriculum so that class time may be used to complete service projects. See Using Give Water A Hand within a K-12 School Curriculum, page 26.

Involving Families

Parents or guardians can provide welcome supervision and/or expertise. This is also important because children whose families are involved in community issues are far more likely to stay involved themselves. Possible adult roles include:

- Planning and organizing with the group
- Helping to identify projects
- Scouting out service sites, collecting materials or equipment
- Helping with Checklists, Watershed Mapping and other activities, especially if the group must split up to accomplish certain tasks
- Presenting background information or training
- Providing transportation
- Evaluating the project, personally and by interviewing community contacts
- Helping youth contact the media to get recognition for their project
- Helping youth organize a final celebration or recognition
- Help in finding funding

It's important to clearly explain roles and responsibilities to parents or guardians. Make sure they understand your own role — and its limitations — as project leader. Encourage them to offer feedback.

Whatever their role, parents or guardians must be kept informed about what their children are doing. A brief note can acknowledge the contributions of their children and avoid misunderstandings. Explain the important lessons youth will learn, and point out that they will be exposed to careers in science, public service, etc.

Transportation

Ideally, your project will be conducted within walking distance of your usual meeting site. Other transportation options include: city buses or other mass transit (you may be able to get tokens donated), bicycles (go over safe riding rules first!), school activity buses, organization or business vans (check with your partner).

Partners, parents or other volunteers may be able to drive the group in cars. Be sure all drivers have a current driver's license and insurance, and stress that all participants must wear a seat belt.

Funding

Funding needs for most Give Water A Hand projects will be minimal. If you do need funds, however, your best bet is to try local sources: individuals, civic groups, businesses, community organizations, government agencies, community foundations or local corporate or nonprofit foundations. Your partner is an essential contact. Your partner may also be able to provide in-kind donations such as tools, seedlings, paint, or use of vehicles or copiers. Help kids develop and submit funding proposals, including a budget. Funding cycles may be quite long — as much as a year for some organizations. Plan ahead.

For long-term projects, you may seek funds from larger regional or national foundations or from state or federal agencies. Some state and federal funds for youth service programs are available for school and community-based groups. Contact your state's department of education.

Nuts and bolts worksheet

How many hours can your group devote to its project? _____

How many young people are consistently active in the group? _____

How many young people would be interested in a water project? _____

What is the group's experience with projects? _____ novices _____ experienced _____ veterans

What skills are strong?

What skills are weak?

How can group members gain these skills? See Skills Bank, pages 62–64 of Action Guide.

Who besides yourself can help organize and supervise? Are there older or more experienced group members who could help? Volunteers from an older grade? Older scouts from another troup? Teachers-in-training from a local college?

What funds are available? $ _____

What resources might be donated in kind? (e.g, water tests, erosion control material, storm-drain stenciling kits)

List Partners

Resources committed

List other potential sources of funds:

What transportation is available?

Do you have liability insurance?

☐ Yes, covered by (school, club, city, etc.) ☐ No, need to purchase ☐ Don't know, need to find out

What rules or laws you must follow? Can you leave your site? Whose permission will you need? (e.g. principal, farmer, parents, etc.)

Is there an existing project you can join? What are the costs and benefits of joining this project? What input will your group have? Who is the contact person for the existing project?

Activity 6: Plan for action

Preparation and time

Preparation

Bring all maps, charts and notes.

Arrange in advance with partners and others to review the group's plans.

Time

60 minutes.

Goal

- Group members develop a realistic project plan, including a safety plan.

Key Points

- Start small and break down bigger jobs into achievable tasks.
- Everyone has a role in the project. You may want even want to rotate roles.
- Every task should have a deadline and a person responsible for it.
- It's O.K. to change the plan later, but it is important to make a plan so everyone knows their duties and deadlines and honors the deadlines.
- Setting realistic goals with measurable outcomes will help you succeed.
- It is important to have a safety plan.

Background*

Selecting Achievable Tasks

It is important to help young people set goals that are challenging yet achievable with available time and resources. Go over tasks on the group's Mind Map to make sure all necessary tasks are included and that they can be done with the people, funds and materials available.

Also check to see that tasks are specific enough. Unless your group has experience planning projects, this may be difficult for them. For example, "stop leaks" or "save water in the bathroom" are goals, not tasks, and are too general. Which leaks? How will water be saved in the bathroom? By taking shorter showers? Installing low-flow shower heads? Each task must be clearly thought out, understood and accepted by whoever is responsible for completing it.

Consider Safety

Professional responsibility as well as concerns about legal liability require leaders of youth service projects to consider safety issues. See the Safety Issues that follow. Make sure young people are adequately supervised by you or another responsible adult at all times. Your job as leader is to think ahead and take all reasonable precautions.

Speak with your organization's business manager, if there is one, or an insurance agent, to find out if you have liability coverage and if it is is adequate for the project you plan. If not, you may be able to make an inexpensive addition to your policy to cover your activities. The more clearly you lay out procedures, policies and responsibilities of all parties (ideally in writing), the better your protection against lawsuits.

Safety Issues - Risk Management

Identify risks your group might encounter in doing its project. Young people are more likely to behave safely if they have helped identify risks and set rules.

See the risk management worksheet on the following page.

**Some portions are adapted from Learning by Giving: K-8 Service-Learning Curriculum Guide, (Cairn, 1993).*

Risk management guidelines

What are the general risks?

- weather
- busy streets
- crime
- water, even if it is shallow
- sunburn
- hypothermia, from getting wet

Are there any project-specific risks?

- trash with sharp edges, hazardous substances, tools

What are the human behavioral risks?

- running, fighting, playing with tools

What can be done to reduce risks?

- work with a buddy at all times
- read and follow instructions
- get training in use of equipment
- wear protective gloves or eye wear
- wear proper clothing (such as reflective safety vests), wear seat belts
- be careful near the water's edge
- ask group leader for help removing broken glass or unidentified items
- use crossing guards

Establish emergency procedures and make sure everyone knows them.

- post 911, hospital and other emergency phone numbers
- have a first aid kit and a car and driver available when working on projects
- have a trained first aid person on-site or nearby

Activity 7: Keep on track

Preparation and time

Preparation

Keep and review the Project Plan as needed. Closely watch to see where the group runs into trouble; use information in the Skills Bank to build the group's skills.

Time

Depends on project chosen. Projects will likely take time beyond regular meetings.

Goals

- To help group to successfully complete a water-related service project.
- Group documents accomplishments.

Key Points

- Problems will come up; your group will learn more if you don't worry about blame, but just learn from mistakes as well as successes.
- You don't have to do it all alone, it's often appropriate to ask for help (from peers, adults and partners).

Background*

Tips for Keeping on Track

The following tips for success are elaborated upon in the Action Guide, page 58. They should help your group remain flexible and move past roadblocks.

- Use your "Project Plan" as a guide, remaining flexible where necessary.
- Work for a "win-win" so both your group and the community benefits from your successes.
- Cooperate and work together with experts and the community.
- Don't give up; when you encounter problems, be flexible.
- Maintain communication within the group and with partners.

Evaluation and Program Improvement

To ensure that your program meets the needs of youth involved, community partners and the environment, you should evaluate your program.

Evaluation need not be expensive nor involve specialized expertise. In fact, you may already be collecting much of the data you need to assess the effectiveness of your program (participation and attendance records, individual project notebooks, partner feedback, or letters of support). The first step is to decide what you want to know about your program, such as "What are youth learning about careers in environmental science?" and then develop questions that will help you learn what you want to know.

Ask for feedback from participants, partners and any organizations receiving services. Ask: "Did the program meet your needs? What was most helpful? What could have been better? What would you like to see changed? What impact did the program have on you? your organization? the community? the watershed? environmental quality? Please list specific contributions of your group which addressed these issues."

Some methods of collecting evaluation information include written questionnaires; verbal feedback from partners, community members and/or youth; one-on-one interviews in person or over the phone; discussion time during community meetings.

Once you collect the data, be sure to include planning time and staff meetings to analyze what you have learned and figure out what to do with it.

If you would like a more formal study of your program, local universities have evaluation expertise and may be able to offer help and advice.

There is a national evaluation of Give Water A Hand that may help you assess your group's efforts. If you would like to take part in this larger evaluation, call the national office at 1-800-WATER20. (1-800-928-3720)

*Some portions are adapted from Learning by Giving: K-8 Service-Learning Curriculum Guide, (Cairn, 1993).

Activity 8: Celebrate success!

Preparation and time

Preparation

If you will hold a local recognition celebration event, you must identify a site, plan the program and send out invitations.

Time

30 minutes to plan. Time for celebration varies.

Goals

- To celebrate the group's success and receive recognition for their efforts.
- To reflect on and learn from the service experience, improving future efforts.
- To share accomplishments with the community.

Key Points

- The group should review its accomplishments.
- Whatever the level of success, state your pride in their commitment and effort. The group has gained valuable knowledge which it should share.

Background

Providing Recognition

Celebrations can be as elaborate as a banquet, as fun as a pizza party, or as simple as holding a ceremony at a regular group meeting. Local recognition celebrations can acknowledge buddies, partners and other supporters and recognize group members' commitment to their communities and to the environment. Celebrations can strengthen a person's sense of self-worth, unify a group, and bring closure to a project.

Organize a celebration that is meaningful to those recognized. Partners and supporters will likely appreciate publicity, but they will feel most deeply about genuine expressions of appreciation from youth. Pictures, skits, videos or public testimonies by youth can be very powerful. The best way to find out what is meaningful to your group is to ask them. Brainstorm ideas with them. Parents or volunteers might like to organize a celebratory party for the group, or kids may want to organize their own. Partners may also be willing to provide recognition, such as by giving Certificates of Appreciation to members.

You can develop your own certificate for your group members. See the sample on the last page of this Guide.

Publicize the celebration as appropriate. You may want to have students write press releases and send them to newspapers and radio and TV stations. Involve local dignitaries, if possible.

National Awards and Grant Opportunities

There are many regional and national recognition opportunities for your group. As a group, discuss what interest you might have in applying for these or other awards.

See the list on the following page for ideas.

Take Next Steps

Apply learning from Give Water A Hand project to future environmental service projects. What will you do differently because of this project? Making a real difference is a life-long commitment. The members of your group have learned valuable lessons in good stewardship; as you tackle new projects, you will continue to learn and grow as individuals and as a group.

For new project ideas, look again at your Needs Checklist or consult your partner. Use the Service Project Plan on page 58.

Award and grant opportunities

The Albert Schweitzer Environmental Youth Award

These awards are presented annually to individuals or groups of students between the ages of 12 and 18, who have worked in the community to effect positive environmental change. For more information or an application, write to The Albert Schweitzer Institute for the Humanities, PO Box 550, Wallingford, CT 06492-0550, or call (203) 697-2741.

"A Pledge and A Promise" Environmental Award

These awards honor outstanding efforts of students, schools and youth groups who have made lasting contributions to the environment. For more information, write to the Education Department, Sea World, 7007 Sea World Drive, Orlando, FL 32821, or call (407) 363-2389.

The Amway "Class Act" Environmental Challenge

Open to 4th to 8th grade classes and their teachers. Entries are judges on positive environmental impact, creativity, originality, and execution. For more information, write "Class Act" Newsweek, PO Box 440, Livingston, NJ 07039, or call (616) 456-1500.

Keep America Beautiful

These are annual awards to youth and school groups for environmental improvement. For more information, write to Keep America Beautiful, Awards Program Coordinator, Mill River Plaza, 9 West Broad Street, Stamford, CT 06902, or call (203) 323-8987.

The National Science Teachers Association Tapestry Grant

The National Science Teachers Association (NSTA), through the Toyota/Tapestry Grants gives grants each year to support innovative one-year projects which focus on environmental education or physical science. NSTA also has other awards and competitions each year which recognize students, teachers and others. For more information, write to NSTA, Toyota/Tapestry Grants, 1742 Connecticut Ave., NW, Washington, DC 20009-1171, or call (703) 243-7100.

President's Environmental Youth Awards

These awards recognize K-12 students who plan and carry out an environmental project. For more information, write to the President's Environmental Youth Awards, Office of Communications, Education and Public Affairs, US Environmental Protection Agency, 401 M Street SW, Washington, DC 20460, or call (202) 260-8749.

President's Youth Service Awards

Two awards, the "President's Award" and the "National Award", are given to youths ages 5 to 22 who have conducted non-compensated, meaningful community service projects. For more specific details, write to the President's Youth Service Awards, PO Box 310, New Castle, DE 19720, or call (302) 323-9659.

United Earth Youth Earth Service Award

United Earth is a not-for-profit, nongovernmental organization that recognizes and promotes environmental leadership and humanitarian excellence worldwide. The mission of the Youth Earth Service Award is to encourage youth in service to the Earth to continue their stewardship into adulthood and inspire, by example, other youth to do the same. Five Youth Earth Service Awards were presented to selected first year participants in Give Water A Hand. For more information about United Earth's Youth Earth Service Award, please write to United Earth, 300 E. 56th Street, Suite 14G, New York, NY 10022.

The Windstar Youth Awards

The Windstar Awards encourage and support individuals who, through their commitment and leadership, are inspiring others to take responsibility for creating a brighter future. For more information, contact Youth Award Jury Chairperson, The Windstar Foundation, 2317 Snowmass Creek Road, Snowmass, CO 81654-9198, (303) 927-4777.

Skills for leaders

Engaging Youth as Leaders

Seeing Youth as Resources

Young people today need to know they're needed. They need to experience the power of making a difference about something they care about. They need to feel hope that something can be done about the many problems they see around them.

Young people have much to offer when asked. They have unique and powerful capacities for creativity, enthusiasm, energy, humor, intelligence and caring. In the past decade, the grass roots youth service movement has shown that kids can address the great issues facing our world: violence, hunger, illiteracy, disease and environmental problems.

Young people are eager to help. In a 1993 survey, 80% of youth grades 4-12 identified water pollution as a "big problem." 81% said they would like to do more to "help animals, fish or plants which are hurt by pollution." (Harris, 1993)

Tips for Involving and Empowering Youth

The key to successful youth service projects is involving young people in developing, planning, organizing and evaluating projects. Through such involvement, they learn more and work better. The youth service movement has learned much from young people themselves about how to involve them as community resources.

Consider the following strategies:

- Build a team of young people and adults. See Team Building Games that follow.
- Involve youth in setting realistic goals.
- Arrange opportunities for young people to reflect on, learn from and apply lessons from their experience. See Reflection on Experience, page 24.
- Acknowledge the skills, knowledge and experiences young people already have.
- Give specific skills training or information as needed to help your group move the project ahead. See the Skills Bank, pages 62–64 of the Action Guide. Local experts can help.
- Ask older students or program veterans (including college students) for help.
- Involve youth as leaders who have never before had the chance to lead.
- Define and maintain accountability; group members must do what they promise.
- Set responsibilities at appropriate levels. Too high, and failure is guaranteed. Too low, and kids will be bored.
- Model behaviors you expect from young people. Expect the same from all staff and volunteers.

Cairn, 1992

Team building games

These games can help group members get to know each other more quickly and will strengthen the group's ability to work together. Take time to talk after each game using the suggested questions or your own. See Reflection on Experience, page 24, for more tips on how to help members learn effectively from their experiences.

Icebreaker: River Jugglers

Purpose: To get to know each other.

Materials: Tennis balls or other small balls.

Activity Level: Moderate

Time: 10–20 minutes

Procedure

Did you ever see anyone juggle water? Sit in a circle on the floor. Participants each pick the name of a local body of water (such as a river, lake or pond). Participants go around the circle and introduce themselves as "Mike Rhine," "Kati Missouri," etc. Begin the game by saying the person's name and waterbody as you toss him or her the ball. That player tosses the ball to another player, calling out his or her name and waterbody. Continue until everyone has had the ball at least once. Now speed up. When this gets easy, add one or two more balls.

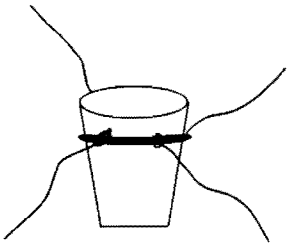
Questions for discussion

- Who can name every person in the group?
- With their waterbody?
- Why did each of you choose the waterbody you did?

Communication: Space Carriers

Purpose: To teach cooperation and the importance of communication.

Materials: Paper cups, water, rubber bands (just large enough to fit snugly around the cups), string, strips of cloth for blindfolds. You need to prepare carriers in advance, one for each 8–10 people. Tie 4 or 5 three foot lengths of string to a rubber band (four for eight people, five for ten). See picture at right. Do not put around cup in advance.



Activity Level: Moderate

Time: 30–40 minutes

Procedure

Break into groups of 8 or 10. Each group forms a circle and everyone picks a partner. Blindfold one partner from each pair, and hand each blindfolded person one of the strings.

Set a paper or styrofoam cup of water on the floor in the center of each group. Tell groups they have to use the carrier to pick up the cup, lift it off the ground without spilling and move it 20 feet to a second designated spot. Member are not allowed to touch the cup or rubber bands! When participants pull on all strings equally, they can stretch the rubber band large enough to fit over the cup. When they slowly release the strings, the rubber band fits snugly around the cup so it can be lifted.

The partners of each pair may talk to one another, but not to other pairs. The blindfolded partner is the only one of the two allow to touch the string.

Give the groups five minutes to work. Don't tell them how to do the task. If they spill a little, say "Oops! Careful!," but keep going. If the cup falls over, make them start over; or stop and talk, depending on time and frustration levels. When one group succeeds or time runs out take off blindfolds and discuss. If time allows, try again, letting pairs talk to each other.

Use the follow questions for a group discussion. Make the point that communication is crucial to success in any group project. Also, point out that individual group members have different skills, all of which may be needed to succeed.

Questions:

- Was the task difficult? Why? Why not?
- Was it harder because you couldn't talk?
- How did you communicate?
- Who took leadership? How?
- Was it easier to be blindfolded or not?
- How can we increase communication on our project?
- How can we work better as a team?

Fostering Learning Through Service

Give Water A Hand shows young people how to take action in their local community by applying a community service-learning strategy to water education. This works well because water issues are community issues. Through the service-learning process, young people can gain a better understanding of their community, and see how their actions make a difference.

Too many educational materials leave out the "how-to" of getting projects done. They rely on suggesting one or two actions projects (such as storm-drain stenciling). But by just suggesting projects, two important points are overlooked. First, young people have talents and interests to contribute to projects and they want to make their own decisions about how to help. Second, there is an opportunity to have young people learn if the action project is both a local priority and relates to a specific community need. Give Water A Hand's service-learning strategy addresses these points and provides a process for helping young people solve real problems.

Water as the Topic

While learning how to take action is the focus of Give Water A Hand, a better understanding of water quality and conservation and related science is also a goal. Encourage youth to think about what they see and do. Use the need to for them know how to do a task to help them gain new knowledge and skills, and to build excitement about science and science careers.

Encourage group members to study the background information and power words in the Action Guides. Look for radio or TV specials on water. Ask youth to listen or watch and discuss them at the next meeting. Use water-related educational materials from nature centers, museums, 4-H, and local natural resource agencies. Involve your partners; they are experts with a wealth of knowledge and experience. Communicate what your group is doing to participants' schools, especially science, social studies or environmental education teachers.

Reflection on Experience

Experiential education research clearly shows that thoughtful reflection during and after the experience is the key to helping youth learn from service projects. Through structured reflection, kids make sense of what they have seen and done. Then, as they continue on the same or new service projects, they test their ideas about how the world works and about how to get things done. They learn how to learn.

Methods of reflection

Journals

Scattered throughout the Give Water A Hand Action Guide are questions which help youth to think about their experiences. For a few minutes at each meeting, have them answer these questions in the Action Guide itself or in separate notebooks. Besides helping participants process experiences as they go, these journals will also be very helpful in telling others what the group did.

Small Group Discussion

Questions in the Action Guides and in the Leader Guidebook can help start discussion and help participants learn from the project. Get comfortable. Encourage everyone to contribute. Ask open ended questions: "What?" "Why?" and "How?" Clarify that the purpose of the discussion is not to expose personal things.

Other Means of Reflection

Any time young people think about what they are doing in order to tell others, they are reflecting.

- Create a poster, display or sculpture for public display.
- Make a short skit or video.
- Speak to community groups or officials about water issues and group efforts.
- Write an article or letter to the editor for the local newspaper.
- Write a project report.

Adapting materials for other audiences

Using Give Water A Hand with Different Age Groups

Give Water A Hand was written and tested for grades 5 through 8. You may need to adapt it for your group. This section offers ideas for doing that. At any age, kids will get the most out of Give Water A Hand if they have an active voice in deciding what they will do and how to proceed.

Young Children

Children younger than 3rd grade certainly can do water-related service projects from cleaning up a waterway to making posters, and they can learn about your local water supply and understand watershed concepts. They will need much simpler, more directed processes than the steps in Give Water A Hand.

3rd and 4th Graders

3rd and 4th graders can watch and help as you work through watershed mapping, checklist, planning forms, etc. You might substitute simpler activities. For example, instead of reading a topographic map, have youth draw a simple map of what they see in the area, showing slopes and valleys and drawing arrows to show which way they would roll if they were rain drops. Aerial photographs may also be helpful.

This age group will enjoy the Team Building Games on page 23 of this Guidebook. They can brainstorm projects. They can develop good questions for local experts and can follow up with thank you notes. Working with local experts, and with direction from you, this age group can complete interesting and meaningful service projects.

9th and 10th Graders

Older youth with past experience on service projects will be able to go through the early activities quickly. Have them take turns preparing for and leading each other through the activities. You can ask them more in-depth questions, perhaps including some from a local expert. They could make an attractive watershed map for display and could present a detailed checklist to policy-making bodies and land owners. They can also do larger projects. They might do individual service projects, as well, possibly preparing a final report on the impact of their work, complete with a detailed watershed map showing all work locations.

Older youth will work and think at higher levels. They could carefully document observations and tests, relate observations to a broader ecological and human context, explain/predict how factors have or will change over time, analyze and/or synthesize information and situations, develop alternative approaches, and use a broader range of information and experiences in tasks and discussion.

High School Juniors and Seniors/College Students

Older youth can use the needs checklists to develop substantial group or individual projects. Planning and other documents will also be helpful to them. Deeper relationships with local partners become possible. Set highly challenging learning goals, such as working with partners to observe and assist monitoring and control of pollution, holding a press conference, preparing a public report evaluating local water issues, conducting an interdisciplinary study of a local waterbody, then developing and implementing recommendations for action.

One of the most effective projects older youth can do is to lead small groups of younger children 5th to 8th grade through Give Water A

Hand. They can make arrangements with local experts and take the role of adult leaders. Youth group leaders should find out from teachers what to prepare for and what to watch out for.

For a full list of water education goals with helpful worksheets for planning, see *Educating Young People about Water* (Andrews, 1995).

Using Give Water A Hand within a K-12 School Curriculum

Service-learning is rapidly gaining support nationwide for its ability to liven up the academic curriculum as students demonstrate knowledge and skills in real-world settings and bring experiences into class discussion and projects.

Give Water A Hand was developed primarily for use in youth groups and other extra-curricular educational settings, but there are many ways water-related service projects can be integrated into the school curriculum. As students assess water-related needs and become involved in service projects, they encounter a host of questions, problems and needs. These drive them to need a variety of skills — everything from understanding the biochemistry of aquatic ecosystems to becoming familiar with government regulations, from drawing posters to making budgets, from calculating surveys of people or animal populations to writing business letters or speeches.

Water study in school can help students investigate the details behind local water issues. Here are a few strategies to use with waterrelated service projects to develop curriculum-based service-learning projects. You may need to adapt these ideas to the age of your school group.

- **Environmental Education:** There are many rich water-related environmental education curricula that complement the student-planned service projects of Give Water A Hand. An environmental education program should begin with water education goals such as those in *Educating Young People about Water* (Andrews, 1995).
- **Health:** Students could invite guests from drinking water utilities to share information about the local water supply and its impact on public health.
- **Water Science:** An example of combining water science with action projects is testing physical and chemical properties of a local body of water and recommending changes in water use based on the data. Students can also enhance their understanding of water science by combining action projects with classroom activities about water, such as those found in Project WET (The Watercourse and Western Regional Environmental Education Council, 1995).
- **Water Ecology:** Students could investigate and describe the plants and animals that inhabit the ecosystem of a local waterbody. Research about the habitat needs of plants and animals could be included in the report.
- **Government and Citizenship:** Students can trace a water issue of local importance to identify which units of government were involved and how.
- **Interdisciplinary Unit:** Use the service project as the core of an interdisciplinary, thematic unit. For example, a composting project could give rise to class sessions on the biochemistry of composting, building compost bins, researching and writing instructions for proper composting, illustrating posters telling people about compost from a worm's perspective, researching native plants then planting using the compost, or testing plant growth over time in plots with and without compost.
- **Interdisciplinary Course:** As with a thematic unit, an environmental service-learning course could begin with basic background and speakers, proceed through a thorough needs checklist and develop into a major project including research, recommendations and an action plan.
- **Research Papers:** Service projects can stimulate ideas for research papers on any related topic. For example, students could research and write about historic land and water use patterns in the watershed. Or they could write about the development of current technology and use of biosolids. Local

experts might serve as reviewers or technical consultants. They may even have research projects students can help with.

- **Reflection:** Writing and visual or performing arts assignments allow students to practice communications skills as they reflect on their experiences.

Contact project partners about their water-related curricula or see a comprehensive, annotated and categorized list as well as water education goals in the booklet *Educating Young People about Water* (Andrews, 1995).

For more information on developing service-learning curricula, contact the National Service-Learning Clearinghouse of the Corporation on National and Community Service (800) 808-SERVE.

Using Give Water A Hand in a Camp Setting

Give Water A Hand was specifically developed for use in non-formal education settings, such as camps. Residential or day camps are perfect settings to implement a water action project. There are opportunities to investigate water problems on the grounds, in the kitchen, in the bathrooms or in art and project areas. People who can help youth research needs are usually easy to track down and willing to help. Finding out who is in charge of giving permission to make changes resulting from projects may be easier in a camp setting than elsewhere. And there may be more time to plan and complete a project in a camp. Campers usually are together for a good deal of time and daily schedules are often less formal or structured than at school.

In a camp setting, the School Site Checklist is the most appropriate tool for researching needs. The Home Site Checklist and Community Site Checklist may also raise some interesting questions for investigation in a camp.

Resources

Notes

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- The Watercourse and Western Regional Environmental Education Council. 1995. *Project WET (Water Education for Teachers).* 201 Culbertson Hall, Montana State University, Bozeman, Montana 59717-0057 (406) 994-5392.
- Water Quality 2000. 1992. *Executive Summary of the Final Report, A National Water Agenda for the 21st Century.* Water Environment Foundation, 601 Wythe St., Alexandria, VA 22314-1994 (800) 666-0206. More than 80 public, private and nonprofit organizations cooperated through Water Quality 2000 to develop an integrated national policy for U. S. water quality and surface and groundwater resource protection.

Project Partners

American Forests

Founded in 1875, American Forests is the oldest, national, citizen conservation organization in the U. S. Its mission is to educate and inform people about the importance of trees and forest ecosystems. It also provides opportunities for education and action through Global Releaf. Its educational products include Living Classrooms through Famous & Historic Forests, the Growing Greener Cities handbook, environmental education guide and video, and World Forests kit. For more information about sales and availability, contact: American Forests, 1516 P St., NW, Washington, DC 20005 or call 1(800)8Releaf

American Water Works Association

The American Water Works Association (AWWA) and its 55,000 members work to assure a safe, sufficient supply of drinking water for the people of North America. The group leads efforts to advance the science, technology, consumer awareness, management, and government policies related to drinking water. To encourage consumer awareness, AWWA provides information about drinking water through its Blue Thumb Project. For information on who to contact in your area, write to AWWA, Public Affairs Department, 6666 W. Quincy Ave., Denver, CO 80235, (303) 794-7711 ext. 4114.

The Blue Thumb Project

The Blue Thumb Project is an international public awareness and education effort to encourage people to take better care of our water resources — and especially our drinking water supplies. Each year a set of material on water — and its care — is developed and disseminated to organizations to help them plan community water education and action projects. For information, contact The Blue Thumb Project, c/o AWWA, 6666 W. Quincy Ave., Denver, CO 80235, (303) 794-7711.

The Boy Scouts of America

The Boy Scouts of America (BSA), comprised of 3 million young men and women, are supported by 1½ million adult volunteers. BSA units are chartered to local community organizations such as religious and civic groups. Since its establishment in 1910, BSA has placed strong emphasis on leadership and youth development programs focused on natural resources and environmental conservation concerns. These programs encourage youth led public service action/learning projects which benefit the local community. Scout units appreciate knowing of needed projects. Technical experts who can help guide Scout activities and projects are always in high demand.

BSA's recently initiated Conservation Good Turn encourages every Scout to make a meaningful contribution to improve the environment. BSA's program literature, particularly the merit badge handbooks in science, nature, environment and conservation series are excellent sources of environmental education materials. These materials are periodically reviewed and updated but subject matter specialists to ensure they reflect the latest in technology, programs, and thinking.

To find out more about Boy Scouts, contact your local BSA Council which is listed in your local telephone directory.

Earth Force

Earth Force is a new, national, nonprofit organization inspired and shaped by youth to promote environmental education, environmental action and public citizenship. Earth Force's vision is "youth everywhere caring about the earth, getting good information about the environment, sharing new ideas, and working together for a clean and healthy future." Earth Force, together with the Earth Force Alliance, believes that youth can significantly benefit the environment through their actions, example, and advocacy. For more information on Earth Force campaigns and programs, please write to Earth Force, 1501 Wilson Blvd., 12th Floor, Arlington, VA 22209.

Global Rivers Environmental Education Network

The Global Rivers Educational Education Network (GREEN) is an international network of students, teachers and professionals who seek to study and improve water quality in their regions, and thereby improve the quality of life. By linking schools around the globe with newsletters, an international computer network, partner watersheds, and other forums, GREEN offers students an innovative, hands-on, action-oriented approach to education that strengthens communities and bridges cultures. GREEN can offer youth groups information on water quality monitoring, a directory of other GREEN participants from around the world, and guidance in starting new watershed programs. For more information, you can write GREEN, 721 East Huron Street, Ann Arbor, MI 48104, (313) 761-8142.

The Groundwater Foundation

The Groundwater Foundation is a nonprofit educational foundation dedicated to educating the public about the conservation and management of groundwater. The Foundation sponsors many events including the Children's Groundwater Festival, which brings together groundwater and natural resource experts from across Nebraska to lead activities and demonstrations. There are many spinoffs from this festival, including Sprinkles, a Festival newsletter providing information on water festivals across the country. In addition, the Foundation can provide general groundwater information for research. To contact the Foundation, write The Groundwater Foundation, PO Box 22558, Lincoln, NE 68542-2558, (402) 434-2740 or fax (402) 434-2742.

Izaak Walton League

The Izaak Walton League promotes protection and preservation of natural resources , encourages conservation education, and defends America's soil, air, woods, waters and wildlife. Izaak Walton League chapters can provide valuable resource information about local environmental issues and conservation projects. The League's Save Our Streams (SOS) program encourages participants to adopt a stream by conducting water and habitat quality monitoring and completing appropriate restoration activities. To find out about League chapters in your area, write or call: Izaak Walton League of America, 1401 Wilson Blvd, Level B, Arlington, VA 22209 (800) BUG-IWLA

National Association of Conservation Districts

The National Association of Conservation Districts (NACD) is a national voice for the nation's nearly 3,000 soil and water conservation districts. These districts promote the wise use of soil and water resources. Local conservation districts can provide technical assistance to individuals regarding soil and water conservation and other natural resources. Some districts have specific educational programs while others may offer educational materials. To find your local district's phone number and address, check the phone book under local government's soil and water conservation district. You might also find a listing under U. S. Government, Department of Agriculture, Natural Resources Conservation Service, as they are often in the same building. You can write the national office of NACD, at 408 E. Main, PO Box 855, League City, TX 77574, or call (713) 332-3402 or fax (713) 332-5359.

National 4-H Council

The National 4-H Environmental Stewardship program helps youth learn how to turn a concern for the environment into action. Educational experiences guide youth toward a balanced approach to community problem-solving, protecting the environment, managing resources, and taking appropriate action. For information on natural resource/environmental specialists in your area, contact your state or county Extension office. For more information on the National 4-H Environmental Stewardship Program contact the National 4-H Council in Maryland at (301) 961-2866 or (301) 961-2833.

National Drinking Water Clearinghouse

Established in 1991 at West Virginia University, the National Drinking Water Clearinghouse (NDWC) assists small communities by collecting, developing, and providing timely information relevant to drinking water issues. Intended for communities of fewer than 10,000 people

and those who work with them to provide safe drinking water, the NDWC offers various information services, including: free quarterly newsletters that discuss technical, regulatory, managerial, educational, and financial issues; toll-free telephone consultation and referral service; toll-free electronic bulletin board system; and numerous low-cost informational resources. Funded by the US Department of Agriculture's Rural Utilities Service, the NDWC's activities support that organization's commitment to assist America's rural water facilities. For more information about how the NDWC might assist your community, call (800) 624-8301 to request a free information packet or to speak with a technical assistance.

National Marine Educators Association (NMEA)

The National Marine Educators Association (NMEA) is an organization of educators that teach marine science to students of all ages. Our basic premise is to "make known the world of water both fresh and salt." NMEA has chapter affiliates across the nation. We publish the journal Current as well as NMEA News, in which one issue each spring is devoted to summer marine education opportunities. For information on how you can get in touch with your local chapter or become a member of our organization, please call NMEA at (404) 648-4841.

National Science Teachers Association (NSTA)

The National Science Teachers Association is an organization of science education professionals and has as its purpose the stimulation, improvement, and coordination of science teaching and learning. NSTA carries on the national conversation on science education through its conventions, periodicals, and online. For a catalog of NSTA publications and information on membership, call (703) 243-7100.

Project WET (Water Education for Teachers)

The goal of Project WET is to facilitate and promote awareness, appreciation, knowledge and stewardship of water resources. Your group can contact Project WET through the national office to order water curriculum materials and activity guides, and to find out the name and address of your state's Project WET sponsor. National Project WET, 201 Culbertson Hall, Montana State University, Bozeman, MT 59717-0057, (406) 994-5392.

Natural Resources Conservation Service

The Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service, works with local soil and water conservation districts, which are in nearly every county, to help private landowners to conserve, improve and sustain natural resources. Youth and leaders should contact their local NRCS or conservation district office for assistance, opportunities and materials. Check your local telephone directory under U. S. Government, Department of Agriculture, Natural Resources Conservation Service, for the address and telephone number of your nearest NRCS or soil and water conservation district office. For a Clean Water Packet from NRCS, call 1-800-THE-SOIL.

Tennessee Valley Authority - Clean Water Initiative

The Tennessee Valley Authority's (TVA's) Clean Water Initiative is an innovative effort to make the Tennessee River the cleanest, most productive commercial river system in the United States by building partnerships for watershed protection and improvement. TVA monitors water conditions and assigns teams of scientists, engineers, and communication experts called River Action Teams to work in the twelve sub watersheds which comprise the Tennessee River Watershed. TVA works in partnership with landowners, local businesses, government officials, schools community organizations, and citizens to find ways to protect water quality and aquatic life without limiting the river's use. TVA reports the condition of the river system annually to the public in River Pulse. TVA is actively involved in educating and involving the public in local water issues and promoting public involvement in improvement projects.

For more information about TVA's Clean Water Initiative or to order a copy of River Pulse, write to us at 400 West Summit Hill Drive, WT 10D, Knoxville, TN 37902-1399 or call (423) 632-8502.

Trout Unlimited

The nation's leading coldwater conservation organization, Trout Unlimited's (TU) mission is to conserve, protect, and restore North America's trout and salmon fisheries and their watersheds. Across the country, TU's 75,000 members in 450 chapters work in their communities to restore streams and rivers degraded by pollution and educate the public about the ecological and economic importance of healthy streams. In Washington, DC, the national staff concentrates on both national and local conservation issues, pressing for better environmental protection and fish-friendly laws by testifying before Congress, publishing a quarterly magazine and supporting regional and chapter conservation projects. For more information on Trout Unlimited or to see if there is a chapter near you, please contact TU at (703) 552-0200, or write Trout Unlimited, 1500 Wilson Blvd, Suite 310, Arlington, VA 22209-2310.

United Earth

United Earth is a not-for-profit, non governmental organization which recognizes and promotes environmental leadership and humanitarian excellence worldwide. Founded in 1974 by Claes Nobel, descendent of the Nobel Prize creator Dr. Alfred Nobel, United Earth focuses global attention, resources and educational programs on an unprecedented challenge: uniting the people and nations of Earth in forging our collective, sustainable future. The mission of United Earth's Youth Earth Service Awards is to encourage youth in service to the Earth to continue their stewardship into adulthood and inspire, by example, other youth to do the same. Winners of the 1995, inaugural Youth Earth Service Awards were selected from youth and youth groups participating in Give Water A Hand.

US Environmental Protection Agency

The U. S. Environmental Protection Agency (EPA) was established in 1970 to permit coordinated and effective governmental action on behalf of the environment. The EPA seeks to abate and control pollution systematically, through proper integration of a variety of research, monitoring, standard setting, enforcement and outreach activities. For more information and for ideas on how to design your project, contact the EPA Resource Center at (202) 260-7786, or the EPA Public Information Office at (202) 260-7751.

National Directory of Volunteer Environmental Monitoring Programs. January, 1994. EPA 841B94001. This directory lists volunteer water monitoring programs on a state by state basis. Your group may be interested in hooking up with one of these ongoing programs. U. S. EPA Office of Water and Rhode Island Sea Grant, University of Rhode Island, Narragansett, RI 02882.

EPA Region 5 has many educational computer color graphics programs (for IBM and compatible systems) on water and water systems, such as home water conservation and wetlands education. The programs are free provided you send a computer disk. For a catalogue and order blank call the Region 5 Software Development Unit at (312) 353-6353.

US Fish and Wildlife Service

The U. S. Fish and Wildlife Service is the principle Federal agency assigned to the conservation and enhancement of fish and wildlife and their habitats. The Service offers many educational resources and lesson plans for their programs. For a list of education programs and publications, contact National Education and Training Center, Publications Unit, 4401 North Fairfax Drive, Mailstop Webb 304, Arlington, VA 22203, Phone (703) 358-1711, fax (703) 358-2314. To locate the Fish and Wildlife Service office nearest you, consult your local telephone directory under U. S. Government, Department of the Interior.

US Forest Service

The U. S. Forest Service Natural Resource Conservation Education Program (NRCEP) helps people of all ages understand and appreciate our country's natural resources and how to conserve those resources for future generations. Through structured education experiences and activities targeted to varying age groups and populations, NRCEP enables people to realize how natural resources and ecosystems affect each other and how

resources can be used wisely. For more information, or for the name and address of a contact person in your region, write NRCEP, 14th and Independence Ave., SW, Washington, DC 20090-6090, or call (202) 205-1545.

US Geological Survey

The mission of the U. S. Geological Survey (USGS) is to provide geologic, topographic and hydrologic information that contributes to the wise management of the nation's natural resources and that promotes the health, safety, and well-being of the people. The USGS can provide youth groups with topographic maps, and geologic and hydrologic data for many locations throughout the nation. Specific to water, the USGS Water Resources Division can provide information about the occurrence; availability; and physical, chemical and biological characteristics of surface and groundwater at many locations. To locate the nearest office of the USGS, look under the U.S. Government, Dept. of the Interior, in the telephone book.

Water Environment Federation

The Water Environment Federation is an international not-for-profit technical and educational organization of over 40,000 water quality experts dedicated to the preservation and enhancement of the global water environment. Members can act as advisors to community action projects and provide materials on biosolids recycling, household hazardous waste, and organizing a groundwater festival. They can be reached by contacting your community's wastewater treatment plant or by calling (703) 684-2487 in Virginia for the name of a local representative.

Western Regional Environmental Education Council

The Western Regional Environmental Education Council (WREEC) was formed in 1970 with the goals of developing, disseminating and coordinating environmental education programs and materials. WREEC co-sponsors such well known programs as Project Learning Tree, Project WILD, and Project WET. WREEC also has a guide, titled Taking Action available to educators interested in involving students in environmental action projects. To find your state's contact person for these programs, contact WREEC, 4014 Chatham Lane, Houston, TX 77027. (713) 520-1936.

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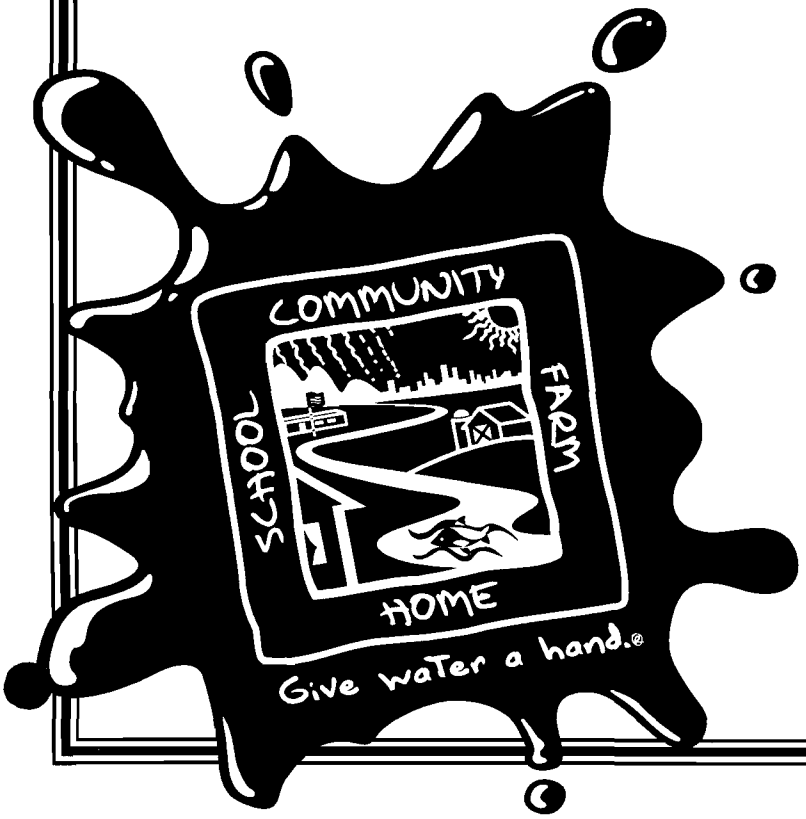

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Water Environment Federation
Western Regional Environmental Education Council

Project Director

Elaine Andrews, Environmental Education Specialist, University of Wisconsin–Cooperative Extension, College of Agriculture and Life Sciences, School of Natural Resources, Environmental Resources Center

National Coordination

Gregory L. Crosby, USDA Cooperative State Research Education and Extension Service

Project Coordinator

Kadi Row, University of Wisconsin–Cooperative Extension, Environmental Resources Center

Lead Writers and Service-Learning Specialists

Rich Cairn and Susan Cairn, Cairn & Associates, Minneapolis, Minnesota

Environmental Education Research Specialist

Kelly Warren, University of Wisconsin–Cooperative Extension, Environmental Resources Center

Designer

Ann Sweeney, Hyperion Studios, Inc., Madison, Wisconsin

Illustrator

Lynne Bergschultz, Bergschultz Studio, Fredonia, Wisconsin

Copy Editors

Molly Rose Teuke, Wild Rose Editorial, Madison, Wisconsin

Lynn Entine, Lynn Entine Writing and Editing, Madison, Wisconsin

Program Assistant

Sheila Voss, University of Wisconsin–Madison, Madison, Wisconsin

Additional Reviewers

Henry Althoen
William C. Dickinson
DeLynn Hay
Carolyn Johnson
Paul McCawley
Robert M. Pfeiffer
Suzanne Wade
Tom Levermann

The Blue Thumb Program, a joint effort for National Drinking Water Week, in cooperation with the American Water Works Association

Background of the Give Water A Hand Project

In 1992, the Cooperative Extension Service of the United States Department of Agriculture (USDA), completed a national assessment of youth water education needs. It identified over 1,000 youth water education publications and extensively reviewed about 70 water curricula. As a result, the team recognized four needs:

1. a need for a collaborative approach to water-related environmental education
2. a need to help youth to act
3. a need to make environmental issues immediately relevant for youth, and
4. a need to nurture in youth the skills of environmental stewardship

Partners

In a follow-up study, USDA found that the best water-related youth service projects paired youth groups with local water experts such as Extension Agents, waste water treatment plant operators, naturalists, directors of environmental organizations, and local soil and water conservation district staff. Working with youth group leaders, these experienced professionals help identify and organize projects and can help find resources.

Action

Give Water A Hand offers a process which helps young people research needs in their homes, farms/ranches, schools or communities, and develop water-related environmental service projects to meet those needs.