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ABSTRACT

Educators of students grades 4-8 can use this guide to lead a community service project using the "Give Water a Hand" youth action program. Youth groups investigate water and water conservation within the home, farm, ranch, school, or community, with the help of local experts. The guide contains six chapters that cover: (1) an introduction to the program; (2) teaching strategy for each of nine activities that appear in matching student guides; (3) leading a small group in problem-solving; (4) adapting materials for other age groups and use within a K-12 curriculum; (5) funding, liability, transportation, time, involving families, and evaluation and program improvement; and (6) 10 resources and information on 19 project partners. (LZ)

Environmental Stewardship

GIVE WATER A HAND

Get a blue thumb!

Give water a hand®

LEADER GUIDEBOOK

YOUTH ACTION PROGRAM PROMOTING GOOD WATER MANAGEMENT PRACTICES AT HOME AND IN THE COMMUNITY

Made Possible With Support From:

- *Church & Dwight Co., Inc.*
  Makers of Arm & Hammer® Baking Soda
- *National Fish and Wildlife Foundation*

1994

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Leader Guidebook

University of Wisconsin-Extension,
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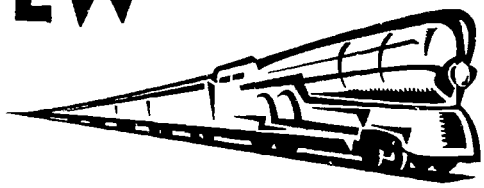
Environmental Resources Center
College of Agriculture & Life Science
Madison, WI 53706
(800) WATER20

PROJECT OVERVIEW

TIME LINES



PROJECT TIME LINE - KEEPING ON TRACK!

Starting Date: _____ Completion Date: _____

You are here... ▼

❑ 1A-Why Water	❑ 1B-Ecological Address	❑ 1C-Research	❑ 2A-Input	❑ 2B-Choose	❑ 2C-Plan	❑ 3-On Track	❑ 4A-Celebration	❑ 4B-Next Steps
Target Dates: _____	_____	_____	_____	_____	_____	_____	_____	_____

Write in your target date for each section

This timeline diagram above is in each activity of the *Action Guides* to help keep projects on schedule.

At a minimum, you will need 6-8 meetings, one to two hours long:

- 3 meetings to research needs, plan and prepare projects
- 2-3 meetings to do a service project (Note: You may need to do your service project outside the regular meeting time.)
- 1-2 meetings to wrap up the project and to apply for national recognition

See Sample Give Water a Hand Activity Flow Chart, page 4.

WHAT TO DO RIGHT AWAY

- **Get a topographic map**(s) for your site *immediately*. If possible, try to get 1:24,000 (7.5 minute) scale topographic maps.
  - First, look in the Yellow Pages to see if there is a commercial or government-run map store in your community, or ask your local Soil Conservation Service office for the nearest source.
  - If you have no local map store, call 1 (800) WATER20 for an order form for maps from the United States Geological Survey. Allow 4-6 weeks for delivery of your completed order. *See Using Maps page 7 for more information.*
- **Decide when your group must be done** with its project, how often you will meet, what your budget is, etc. If your group will need money for its project, begin making arrangements now. *A worksheet with these questions is on page 11.*
- **Arrange for a local water expert to work with your group.**
- **Skim read the *Action Guide*** for the site you will work on *(home, farm, school or community)* so you know what is coming up and can explain it to youth. *See pages 5-14 in the Leader Guidebook for details.* You will also likely need to arrange in advance for some resources.

TARGET AGE GROUP

Give Water a Hand Action Guides are written for 9-13 year-olds. *For ideas on adapting activities for younger or older youth, see page 22.*

NATIONAL RECOGNITION:

DEADLINE - MARCH 1, 1995

Your group can use these materials at any time. During 1994-95, however, there is a special opportunity for national recognition:

Selected youth groups participating in *Give Water a Hand* will receive Youth Earth Service Awards in Washington, DC, during National Drinking Water Week, May 7-13, 1995. These awards will be part of the United Earth ceremonies, and will be presented by Claes Nobel of the Nobel Prize family, founder of United Earth.

In order to have a chance to receive this award, you must complete and send in the form on pages 27-28 of the youth *Action Guide* by **March 1, 1995.** Your group must also complete and return the registration form accompanying these materials.

1) INTRODUCTION

WHY WATER ISSUES?

Drinking • Fishing • Cleaning • Transporting • Heating • Cooling • Growing Food • Manufacturing • Generating Electricity • Swimming • Living

Try to name one thing that was made without or could live without water. Can't do it? That's because water is basic to life. Most of the weight of any plant, animal or person is water. All living things need water to survive. People need water to make things and to have fun.

We share a responsibility for this precious resource: to protect and improve the quality of water and to conserve it. In the past 22 years, since the passage of the first Clean Water Act, the United States has made great strides in restoring the chemical and biological integrity of its waters to "fishable," "swimmable" and "drinkable" levels. During this time, we have identified and brought under control several types of pollution. As we learn more about the causes of pollution, we realize the importance of being an informed public if we are to continue to make progress.

As you will see in this *Guidebook*, water education can be fun! You can make a difference. Education and action are the keys. Your role as leader is to help your group – get them to act! You don't have to know a lot about water. Get help from an expert to assist your group as it monitors a stream, tests drinking water, puts on a groundwater festival, etc. Information, ideas, resources and equipment are all around you. Help your group tap these resources to *Give Water a Hand!*

UNIQUE STRENGTHS OF THE PROJECT: PARTNERS AND ACTION

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. the 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 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 will help youth groups research needs in their homes, farms, schools or communities, and develop water-related environmental service projects to meet those needs. It does not attempt to cover all of the many issues related to water but can help youth track down issues, resources and answers for themselves. It is intended to support water-related service projects as a supplement to existing materials and programs.

BENEFITS OF *GIVE WATER A HAND* PROJECTS

YOUTH:
- 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 pages 27-29

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

COMMUNITIES AND THE ENVIRONMENT:
- involve youth in addressing real water-related needs through service projects
- gain youth who are active citizens and stewards of the environment

PROJECT ROLES

ROLE OF YOUTH PARTICIPANTS

Give Water a Hand Partners seek to motivate youth to act on water-related issues in their communities. As they think about how to serve their communities, they will learn about water, about working together, and about effecting change. Help youth make this *their* project! With guidance from project materials and leaders, youth will look up information, talk to experts, resolve issues for themselves – and have fun.

Results from a 1993 Louis Harris poll of over 10,000 children in grades 4-12 found that youth prefer after-school activities where *they* choose what they will do. Results also found that youth want to work on environmental problems and help improve their communities, but *they* want to decide how. *Give Water a Hand* materials are designed to meet this need by providing youth with simple steps and basic information about water quality and conservation so they can make their own decisions.

ROLE OF THE PROJECT LEADER

The more youth plan and manage their own projects, the more they will learn. You do not need to be an expert on water issues but a coach and mentor of young leaders. Follow your own judgment as to when to urge youth on, when to hold them back, and when to comfort them and help pick up the pieces. Yours is an important role in their lives. Thank you for your commitment.

The group leader in *Give Water a Hand:*

- links youth to community resources, including Project Partners
- manages the overall project, including managing time to help the group complete tasks, and evaluating individual and group progress
- acts as a guide who monitors and encourages rather than an authority figure who directs
- creates opportunities for learning and fosters an environment where learning and growth can happen
- empowers youth to take responsibility for their own actions
- helps participants think through plans, recognize flaws, adjust and move ahead
- supports youth when they make mistakes
- applauds youth when they succeed

(Quest, 1994)

ROLE OF PROJECT PARTNERS

We urge your group to work with a natural resources expert who can help plan and complete a project. We call these experts "Project Partners." You may already work with one or more Partner organizations. If not, contact one of the organizations listed on the inside back cover. Some have local contacts. Some even have service programs your group could join. *Also see back cover in the Action Guide.*

Partners may be able to give:

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

2) LEADING PROJECTS:

STEP BY STEP THROUGH *ACTION GUIDES*

OVERVIEW: PROJECT FLOW

Give Water a Hand Action Guides follow a simple, logical sequence.

- Activities 1A-C quickly immerse youth in research on the real needs for specific water management practices at a home, farm, school or community site.
- Activities 2A-C help them choose and plan a service project for their site in response to an identified need.
- Activity 3 offers tips to keep them going on their projects.
- Activities 4A-B help them celebrate and plan for next steps.
- Use the "Get Partner Support" section early in your planning, so your group can tap Partner resources before starting a project.

Sample Give Water a Hand Activity Flow Chart

Activity #	Partners	1A	1B	1C	2A	2B	2C	3	4A	4B
Role in overall project	Access local and national support for project	Introduce water issues; commit to do a project	Map watershed understand context	Do Needs Checklist; research needs	Get input and help from water experts	Choose a realistic service project	Plan: set goals, time line; divide tasks	Do the project; adjust plans; reflect	[redacted]	Plan for next project
Monthly[1]	As needed	Month 1		Month 2	Months 3-5					
Weekly[2]	As needed	Week 1	Weeks 2-3	Weeks 4-5	Week 6	Week 7	Week 8	Week 9-13†	[redacted]	Week 16

1) Sample time line for five monthly meetings, each two to three hours in length, with added time for service project.
2) Sample time line for 16 weekly meetings, each one hour in length, with added time for service project.
* Application for national recognition during 1994-95 is due by March 1, 1995.
† Depending on the project, service projects may require a longer block of time the day or days project is actually done.

Depending on the age, skill level and experience of participants, and on the amount of time available, you may adapt, combine, change the order, or eliminate activities as needed. It is natural for a group to get impatient to "just do the project" rather than talk. Stress from the beginning that the group *will* do a water-related service project, and that research is necessary to make sure that the project meets a real need and is done well.

Most of the detail and instructions for *Give Water a Hand* are in the *Action Guide*. We do not repeat that information in this *Leader Guidebook*. There are summaries of each activity along with background information, helpful tips for leaders, additional skill-building activities, and additional explanation as necessary. Please show this material to youth whenever it will be helpful to explain concepts or procedures.

WATER BASICS

Starting Date: _____
You are here...
Completion Date: _____

1A Why Water	1B-Ecological Address	1C-Research	2A-Input	2B-Choose	2C-Plan	3-On Track	4A-Celebration	4B-Next Steps

Target Date: _____

1A) "WHY WATER?" MAKE A DIFFERENCE! PAGES 1-2

Goals: Youth get to know each other (if necessary). Youth gain/ reinforce basic understanding of why water issues are important. Group decides to do a project.

Key Points to Stress to Group: All life depends on water. Only 1% of water on Earth is available for human consumption. It is important to use water wisely. Think about ways your personal actions affect water quality and conservation. Youth can make a significant impact on water quality today and for the future. With the help of Partners, the group will research, plan and complete a water-related service project.

Preparation: Have a copy of the *Action Guide* for your site (home, farm, school or community) for each participant.

If group members do not know each other, use the "River Jugglers" game on page 20. You will need several tennis balls and the list of rivers.

You may also wish to do the "Space Carriers" team building game on page 21 at this meeting or next. You will need paper cups, water and blindfolds, and you must prepare the carriers using string and rubber bands.

Time: 30 minutes. Up to 90 minutes if you do both team building games.

WATER QUALITY AND CONSERVATION

There is just as much water on Earth today as there was millions of years ago. Yet only a small percentage of that water is available to humans to use in agriculture, industry, recreation, and, of course, at home.

If all the water used in the U. S. each day – for agriculture, industry, government and home use – is divided by the U. S. population, each person would "use" 2,000 gallons each day. For example, it takes 25 gallons of water to grow an ear of corn, and over 100,000 gallons to make an automobile. Some uses degrade water quality, reducing the total amount available for other uses. If water from a convenient, cheap source such as a well or river is used up, communities must pipe water in from far away, raising costs and generating potential environmental problems.

The amount of water available for human use depends not just on quantity, but also on its condition, or water quality. With an ever-increasing number of people who have a complex and expanding set of demands for water, maintaining or improving water quality is a challenge.

Humans are one small link in the water cycle, also known as the hydrologic cycle. *See illustration in Action Guide, page 1.* If we are not careful, contaminants can be added or concentrated in water at any stage of this process.

We usually speak of two sources of water pollution, "point" and "nonpoint." Point source pollution comes from a specific source, like a discharge pipe at a factory. Problems caused by point source pollution have decreased in recent years, partly because point sources are relatively easy to locate. Citizen concern has also helped force improvements. Voicing these concerns led to state and federal laws, such as the Clean Water Act and the Safe Drinking Water Act, which aim to maintain and improve water quality.

Nonpoint source pollution is associated with water runoff following rain storms or snow melt. Nonpoint sources include soil sediments, animal wastes, pesticides, and other materials that can be carried by water in runoff to nearby waterbodies. Groundwater, which is stored in the soils and rock below the land's surface, can be contaminated by agricultural chemicals, private sewage systems, animal wastes, improperly capped well pipes, and leaky fuel storage tanks. Pollution from nonpoint sources is more difficult to regulate. One strategy for reducing this pollution is to educate people to change their behaviors, such as: 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.

Portions of this section adapted from "Be Water-Wise", Virginia Water Resources Research Center, 1983.

BIOSOLIDS RECYCLING

Most communities have a wastewater treatment plant that produces biosolids. This nutrient-rich organic material can be used beneficially as compost or fertilizer in gardens or on farm land to produce greater crop yields. It is 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 that captures water. Some communities package their biosolids in a compost mixture and sell it in local garden stores.

GROUNDWATER

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

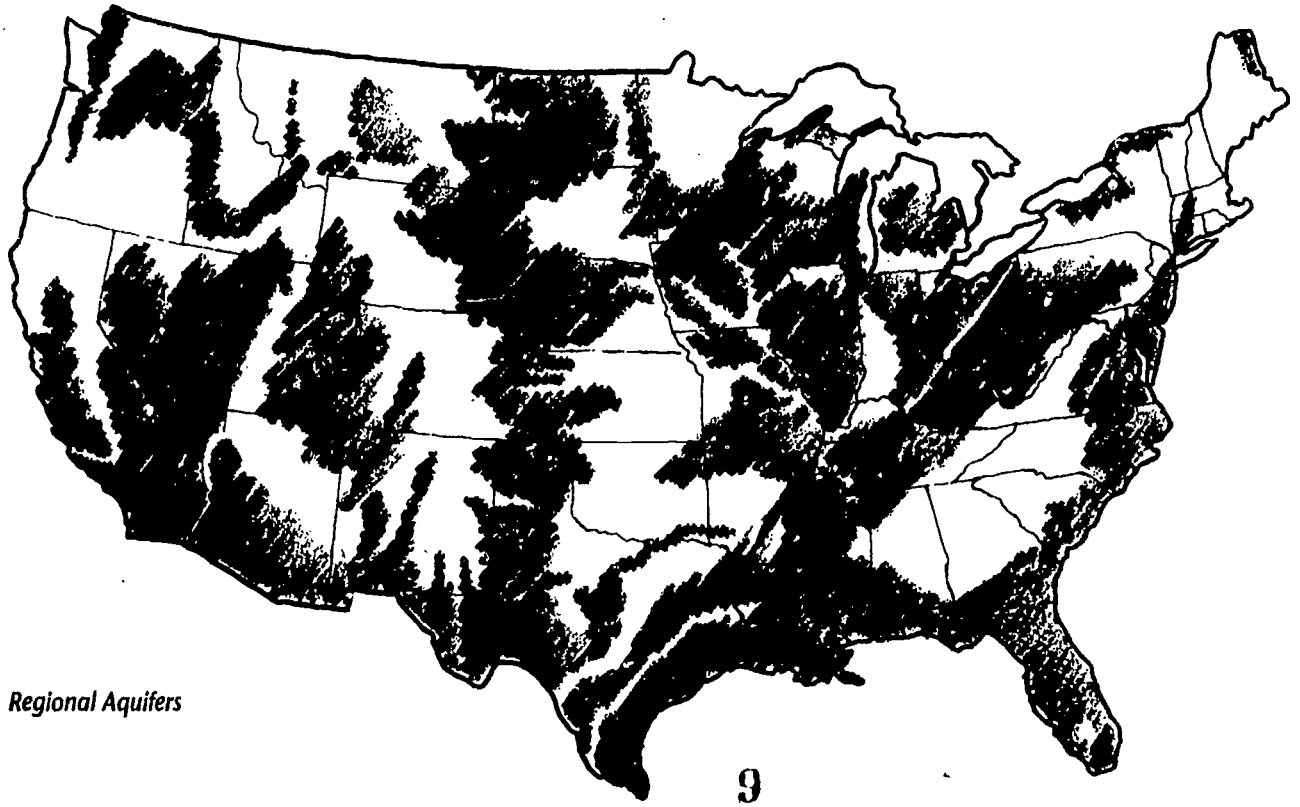
Many people think of groundwater as underground rivers. In fact, groundwater flows very differently from surface water. It is water that fills the underground spaces between particles of sand, pieces of gravel or inside the cracks of rock, and it may move a fraction of an inch or a few feet per day through zones called aquifers. Aquifers are underground layers of sand, gravel and rock like giant sponges that hold and drain large amounts of water. Large, deep regional aquifers can cover a few miles or spread out over thousands of square miles. Use the map below to find the large aquifer closest to your area. There are also local, shallow portions of aquifers.

How do we get to all that water? While some groundwater comes to the surface naturally as springs, most is brought to the surface by drilling into an aquifer and pumping water out through a pipe. Many rural residents have private wells on their property. Private wells often draw from local, shallow portions of aquifers. Private well water comes directly from the ground and is not tested or treated as public-supplied water is. It is up to individual property owners to test their well water for potential contaminants.

With surface water, an offensive odor, and cloudy, discolored water or dead fish may warn us of pollution. Because groundwater is out of sight, however, we may not detect pollution until groundwater is seriously damaged.

Contaminated water anywhere above ground can potentially seep underground to pollute groundwater. Pollution threats include hazardous waste spills, pesticides, fertilizers, herbicides, or leaks from septic tanks, landfills and buried gasoline tanks. Individual wells can often be contaminated by cracked well casings, improperly closed abandoned well pipes, and human and animal wastes disposed of too near the well head.

Tracking groundwater pollution is difficult. When detected it is often impossible to completely remove all traces of pollution. And groundwater cleanup can be costly. *Preventing pollution above ground is the first step to clean, safe water underground.*



Regional Aquifers

9

WATERSHED MAPPING

Starting Date: _____ Completion Date: _____

You are here...

1A Why Water | 1B Ecological Address | 1C-Research | 2A-Input | 2B-Choose | 2C-Plan | 3-On Track | 4A-Celebration | 4B-Next Steps

Target Date: _____

1B) "WHAT'S YOUR ECOLOGICAL ADDRESS?" MAP YOUR WATERSHED PAGES 3-7

Goals: Youth understand what a watershed is, and can describe the watershed site, including water sources, drainage patterns, and their own relationships to the watershed. The group draws a map of the watershed which includes the project site.

Key Points to Stress to Group: Water issues are best understood in relation to watersheds; things dumped on the ground may eventually end up in a stream, lake or well. Where does the site's drinking water come from? Where does its wastewater go? Where does surface runoff flow to from the site?

Preparation: See the Materials Needed on page 6 in the Action Guide.

Read through this activity carefully in advance. If you are not comfortable using topographic maps, see Using Maps in the following section.

To complete the Watershed Map, the group will need to identify the site or sites where drinking water comes from, where wastewater goes, and, if surface runoff goes into storm drains, where they empty into waterbodies. You may wish to find out in advance. Contact the local water utility. *See American Water Works Association in Project Partners, page 27.*

Time: 90 minutes or more.

MANAGING WATER BY WATERSHED

In recent years, people have come to understand that it's best to manage environmental issues in a coordinated fashion. Most natural events and human activities affect the quality of water resources principally, within a local watershed's boundaries. For this reason, watersheds now seem the most sensible hydrological unit in which to restore and protect water quality. A watershed is an area of land where all water drains, or "sheds" to the same river, lake, reservoir or other body of water.

The most obvious human interaction with water is on the surface, yet much of what happens in the watershed is out of sight, in the groundwater. To understand a watershed fully, you also must know about the soils, geology and acquifers of its groundwater system. This is especially important when your project deals with wells or groundwater contamination. Your Partner may be able to help you get information on the groundwater system in your area.

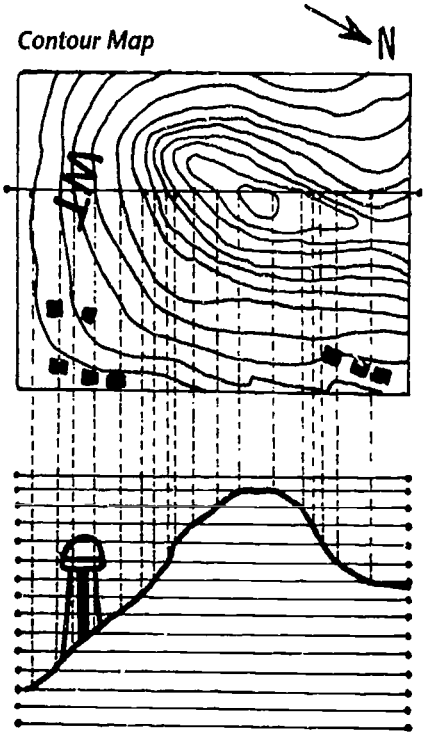
(Portions of this section adapted from Dyckman, 1981.)

USING MAPS

Topographic maps depict an aerial view of land. They use contour lines to show the shape and 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 contour 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 "V's" or "U's" in the contour lines where the "V's" point up hill. Hill tops are where contour lines connect to form circles or ovals.

Contour Map



United States Geological Survey (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.

Every map has a scale. The map scale 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" 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 map to see how recently it was made. A current street map can help you fill in new construction and other changes. 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.

HOW TO OBTAIN A TOPO 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 Conservation Service for the nearest source.
2) Or call *Give Water a Hand* at (800) WATER20 to find out which USGS maps you need for your area and how you can order them. *(You can also get an index for maps in your state directly from USGS by calling (800) USA-MAPS. The index will take about four weeks to arrive. After that, you still need to order your map. So, for this project, we suggest you call (800) WATER20 to speed up the process.)* Standard maps cost $2.50 each from USGS and generally more at map stores.

HELPFUL ACTIVITIES TO EXPLAIN MAPS

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?

Start by drawing a map of a very small area such as a table. Look down at it and draw a "map" showing 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 will do when it makes a site map.

One way to explain topographic lines is to pretend to walk along a trail *(if there are any)* or road on the map. Where on the route would the slope be steepest? Are there any cliffs on the map? Which would be the most interesting walk? Which would be the hardest? 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.

NEEDS CHECKLIST

Starting Date: _____ Completion Date: _____

You are here...

1A Why Water | 1B Ecological Address | 1C Research | 2A-Input | 2B-Choose | 2C-Plan | 3-On Track | 4A-Celebration | 4B-Next Steps

Target Date: __ _____

1C) "WHAT'S HAPPENING?" RESEARCH NEEDS PAGES 8-16

Goals: Understand water management practices related to water conservation and water quality. Check water management practices at the site and identify needs for effective practices. Make a site map. Set priorities on needs.

Key Points to Stress to Group: It is important to make sure our project meets a real need. Does everyone know how to answer all questions on the checklist? Take time to be accurate. Take notes, especially if for some reason you can't get an answer.

Preparation: The group may need permission from a parent, teacher, farmer or other authority to do the Needs Checklist. Each team doing the Needs Checklist will need its own copy. Read it closely to be sure you can explain how to answer each question. You may wish to seek information on some questions in advance.

Time: Two hours. Some questions require tests or information that take time to gather. You may need to complete the checklist at the beginning of a future meeting.

TIPS FOR USING THE NEEDS CHECKLIST

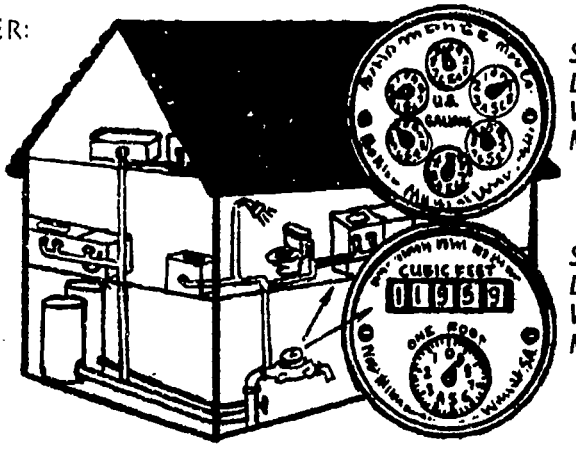
LIMITED TIME: Due to time or other factor you may wish to complete only a portion of the checklist. Your group may split into teams or work all together. Some of the questions are more complicated than others, and may take additional time to answer. If time is limited, skip these questions and come back to them later if you can. It is more important to finish the checklist activity in the time allotted so you have plenty of time for the action project.

SETTING PRIORITIES: Once the group has completed the "Checklist," they will need to set priorities on the questions to help identify action project/s. The top priority issue or question 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 or questions.

Keep in mind:

- How much time do you have to do an action service project? *Look back at your timeline.*
- What will the weather be like when you do your service project?
- How much time do *you*, the leader, have to supervise and help with the action project?
- Is there a project you can join that another group of students or adults is doing?

READING A WATER METER:



Six Dial Water Meter

Single Dial Water Meter

Several questions 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—then record 9).* Some meters measure water in cubic feet instead of gallons, but they are read the same way. A cubic foot of water equals about 7.48 gallons.

INVOLVING LOCAL PARTNERS & EXPERTS

Starting Date: _____ Completion Date: _____

You are here... ▼

1A-Why Water | 1B-Ecological Address | 1C-Research | 2A-Input | 2B-Choose | 2C-Plan | 3-On Track | 4A-Celebration | 4B-Next Steps

Target Date: _____

2A) "WHAT DOES EXPERIENCE SAY?" GET INPUT FROM AN EXPERT PAGE 17

Goals: Youth meet with a local water expert to share their research and to learn from the expert about water issues. Identify additional water quality and conservation needs for the site. Get input on group research and priorities so far.

Key Points to Stress to Group: Be respectful. Thoroughly prepare your agenda and questions. Make sure that the discussion addresses the group's specific site.

Preparation: Make sure a guest is invited well in advance, and that he or she knows the goals of the meeting in advance. 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, you must ensure that youth hear balanced perspectives. *See Handling Controversy page 16 for ideas.*

Time: 60 minutes.

There are many places throughout *Give Water a Hand* where local Partners can help. They may even be able to identify a service project for your site and/or provide help in organizing it.

Partners may wish to be involved with your group from the beginning. Check with your potential Partner to learn their goals for involvement. Ideas for how partners can help are listed under Role of Project Partners, *(page 3)* in this *Guidebook.*

Whether or not you are already a part of a national or local network of organizations, carefully review the National Partners list *(on pages 27-29)* 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 in every community. See also, Get Partner Support in the *Action Guide, (back cover)* for ideas on contacting other local water experts. Use the following checklist to help keep partnerships 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?
- ___ Does each partner have a sense of belonging, a feeling that they are needed to achieve long-term goals?
- ___ Is there a feeling that what each partner contributes 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? What individuals are not up on, they may be down on.
- ___ 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)

CHOOSE A SERVICE PROJECT

Starting Date: _____ Completion Date: _____

You are here... ▼

1A Why Water	1B Ecological Address	1C Research	2A Input	2B Choose	2C-Plan	3-On Track	4A-Celebration	4B-Next Steps

Target Date: _____

ACTIVITY 2B) "WHAT CAN WE DO?" CHOOSE A SERVICE PROJECT PAGES 18-20

Goal: Leader and youth choose a service project, ideally together with Partners.

Key Points to Stress to Group: Review "Watershed Map" and "Needs Checklist" to make sure project will meet a real *water*-related need. Carefully review the project using the questions in "Will it Work?"

Preparation: Contact your local and national Partners to find out if they can suggest projects. Use the "Project Nuts and Bolts Worksheet" to help define limits.

Time: 90+ minutes if group doesn't know what project it will do. May require research or permission before a final decision. 30 minutes if group has chosen a project. Plan, identify group resources and review "Will It Work?."

PROJECT NUTS AND BOLTS WORKSHEET

Before your group meets to choose a service project, complete this worksheet to identify what is realistic to take on. *See Nuts and Bolts, pages 24-25 for tips on dealing with some of these issues.*

How many hours will your group have to work on its project? _____
(Remember: If you are completing a project during 1994-95, you must apply by ***March 1, 1995*** *for national recognition.)*

How many youth are consistently active in the group? ____

What is the group's experience with projects?

____ novices ____ experienced ____ veterans

What skills are strong?

What skills are weak?

How can youth gain these skills? *See Skills Bank pages 17-21.*

Who besides yourself can help organize, supervise, etc.?

Are there older or more experienced group members who could help?

List Partners: Resources committed:

What funds are available, if any? $_____

What resources might be donated in kind?

List other potential sources of funds:

What transportation is available?

What liability insurance do you have?

Are there any rules or laws you must follow? (e.g. Can you leave your site?)

Whose permission will you need?

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

PLAN FOR ACTION

Starting Date: _____ Completion Date: _____

You are here...

1A Why Water | 1B Ecological Address | 1C Research | 2A Input | 2B Choose | 2C Plan | 3-On Track | 4A-Celebration | 4B-Next Steps

Target Date: _____

2C) "WHO? WHAT? WHEN? WHERE?" PLAN FOR ACTION PAGES 21-23

Goal: Develop a realistic project plan, including a safety plan.

Key Points to Stress to Group: Everyone has a role. Start small. Set realistic goals with measurable outcomes. Break down bigger jobs into achievable tasks. Make sure every task has 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. How will you ensure safety?

Preparation: Bring all maps, charts and notes. Arrange in advance with Partners and others to review the group's plans.

Time: 60 minutes.

SETTING ACHIEVABLE TASKS

It is important to help youth set goals that are challenging yet achievable with available time and resources. On page 18 of the *Action Guide* is a list of questions about project ideas, "Will It Work?" for discussion with youth. A project which can answer "yes" to this set of questions has a good chance of succeeding.

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 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.

SAFETY ISSUES: RISK MANAGEMENT

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

What are the environmental risks?
- *weather*
- *busy streets*
- *crime*
- *deep water - potentially only a couple of feet deep*

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 prevent or protect from risks?
- *wear proper clothing such as reflective safety vests, wear seat belts*
- *each youth works with a buddy at all times*
- *use crossing guards*
- *stay back from water's edge*
- *ask group leader for help removing broken glass or unidentified cans*
- *get training in use of equipment*
- *read and follow instructions*
- *wear protective gloves or eyewear*

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*

COMPLETE PROJECTS

Starting Date: _____ Completion Date: _____

You are here...

1A Why Water | 1B Ecological Address | 1C Research | 2A Input | 2B Choose | 2C Plan | 3 On Track | 4A-Celebration | 4B-Next Steps

Target Date: _____

3) "HOW'S IT GOING?" KEEP ON TRACK PAGE 24

Goals: Group successfully completes a water-related service project. Reflects on and learns from the service experience. Improves future efforts.

Key Points to Stress to Group: Problems *will* come up; don't worry about blame, just figure out how to move ahead. You don't have to do it all alone; ask for help from peers, adults and Partners. Learn from mistakes as well as successes.

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

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

See the Skills Bank, pages 16-20 and Nuts and Bolts, pages 23-24 for practical tips on completing projects.

WRAP UP AND RECOGNITION

Starting Date: _____ Completion Date: _____

You are here...

1A Why Water | 1B Ecological Address | 1C Research | 2A Input | 2B Choose | 2C Plan | 3 On Track | 4A Celebration | 4B-Next Steps

Target Date: _____

4A) "WE DID ALL THAT?" CELEBRATE SUCCESS PAGES 25-27

Goals: Reinforce the importance of the group's efforts. Document accomplishments. Share accomplishments and ideas with the community. Raise awareness. Share accomplishments and ideas nationally by completing the National Drinking Water Week 1995 Recognition Form on page 27 of the *Action Guide.*

Key Points to Stress to Group: What has the group accomplished? Whatever the level of success, state your pride in their commitment and effort. The group has gained valuable knowledge which it should share.

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

Time: 60 minutes to complete the recognition form. Additional time varies.

NATIONAL RECOGNITION

If you are doing a project in 1994-95, be sure to complete and submit the National Drinking Water Week 1995 Recognition Form included in the *Action Guides.* It is due by **March 1, 1995.**

Of course you are encouraged to use these materials at any time.

LOCAL 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 and other supporters and recognize youth's commitment to their communities and to the environment. Celebrations can strengthen youth'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 youth is to ask them. Brainstorm ideas with them. Parents or volunteers might like to organize a celebratory party for youth, or youth may want to organize their own.

Starting Date: _____ Completion Date: _____

You are here...

1A Why Water | 1B Ecological Address | 1C Research | 2A Input | 2B Choose | 2C Plan | 3 On Track | 4A Celebration | 4B Next Steps

Target Date: _____

4B) "WHAT'S NEXT?" TAKE NEXT STEPS PAGE 26

Goals: Apply learning from *Give Water a Hand* project to future environmental service projects.

Key Points to Stress to Group: What will you do differently because of this project? Making a real difference requires long term commitment. The group has a lot to offer and will continue to learn and grow.

Preparation: Variable. For project ideas, look again at your Needs Checklist or consult your Partner. Use the Service Project Plan on page 23.

Time: Variable.

3) LEADING A SMALL GROUP IN PROBLEM-SOLVING

ENGAGING YOUTH AS LEADERS

SEEING YOUTH AS RESOURCES

Youth today need to be 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.

Youth 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 they can address the great issues facing our world: violence, hunger, illiteracy, disease and environmental problems.

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

Follow group leader tips on pages 4-14 and consider the following actions:

- Build a team of youth and adults together. *See Team Building Games, pages 20-21.*
- Involve youth in setting realistic goals.
- Arrange opportunities for youth to reflect on, learn from and apply the lessons from their experience.
- Acknowledge the skills, knowledge and experiences youth already have. *See page 19 in Action Guide.*
- Give specific skills training or information as needed to help youth move the project ahead. *See the Skills Bank, pages 17-21.* Local experts can help.
- Ask older youth or program veterans *(including college students)* for help.
- Involve youth as leaders who have not had the chance before.
- Set and maintain accountability. Youth must do what they promise.
- Set responsibilities at appropriate levels. Too high, and failure is guaranteed. Too low, and youth will be bored.
- Model what you expect from youth. Expect the same from all staff and volunteers.

Cairn, 1992

FOSTERING LEARNING THROUGH ENVIRONMENTAL SERVICE

While *action* is the focus of *Give Water a Hand*, this is also an excellent chance to better understand water quality and conservation, and some related science. Encourage youth to think about what they see and do. Use their need to know how to do a task to help them gain new knowledge and skills, and to build excitement about science and possible science careers.

Encourage youth to study the background information and power words in the *Action Guides*. Keep an eye out for T.V. specials on water. Ask youth to watch and discuss at next meeting. Use water-related educational materials from nature centers, museums, 4-H and schools. Involve your Partners. They are experts with a wealth of knowledge and experience. Whether or not you are a teacher, communicate what your group is doing to participants' schools, especially science, social studies or environmental education teachers.

REFLECTION ON EXPERIENCE

Research on experiential education programs clearly shows that the key to helping youth learn from service projects is thoughtful reflection during and after the experience. Through structured reflection, youth 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.

HANDLING CONTROVERSY: WHEN EXPERTS DISAGREE

Try to make sure youth see and hear a balance of information, materials and people. If all sources tend to reflect a certain bias, invite a responsible organization with a different position to tell its side of the story. Responsible environmental education does not promote a particular viewpoint. It 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 problems, exploring real world issues from many viewpoints.

Point out that several people can each be honestly telling the truth as they see it and still disagree. Are youth hearing the whole story? Ask participants to role play arguing for two or more sides of an issue.

METHODS OF REFLECTION

JOURNALS:
Throughout *Give Water a Hand Action Guides* 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, journals will also be very helpful in telling others what the group did.

SMALL GROUP DISCUSSION:
Briefly discussing the questions can also help participants learn from the project. Questions in the *Action Guides* and in the *Project Leader Guidebook* can help start discussion. 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 very personal things.

OTHER MEANS OF REFLECTION:
Any time youth 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 for the local newspaper
- write a project report

SKILLS BANK:
REINFORCING YOUTH'S ORGANIZATIONAL SKILLS

NOTE
Since youth may need some skills development this section pertains more to youth than to adult leaders. You may want to pull this section out and copy for youth.

It is impossible to foresee all the needs that might come up during a service project. Here are some activities and ideas for helping youth learn or sharpen skills they might need to complete projects. Use these pages as necessary.

An excellent source for additional tips and information on organizing skills is *The Kid's Guide to Social Action. (Lewis, 1991.)* Some of this section is adapted from it.

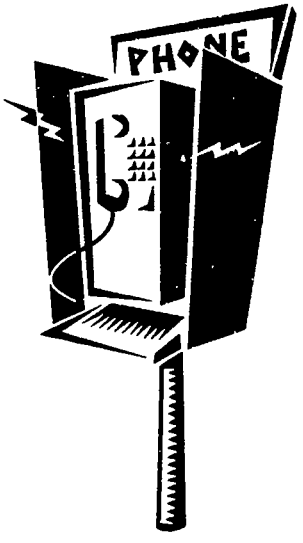
BRAINSTORMING

There's more than one way to brainstorm. Here are two. *Also see Mind Mapping on page 22 in the Action Guide.* All types are usually followed by some sort of priority setting and/or categorizing.

TRADITIONAL:
Quickly come up with ideas for a set amount of time. Have someone write them down. This method generates lots of ideas on many topics in a short time.

BRAIN HURRICANE:
Post sheets of paper (or use blackboard sections) with a topic written on each. Participants move from one to another and write their best ideas. Topics could come from a previous brainstorming session. This method allows everyone to contribute and to focus on the topics they know best.

GUIDELINES FOR BRAINSTORMING:
Don't criticize other's ideas. There are no "bad" ideas at this point. Write all suggestions exactly as they are spoken. Build on ideas of others. Silence may mean everyone is thinking. Don't be afraid of it.

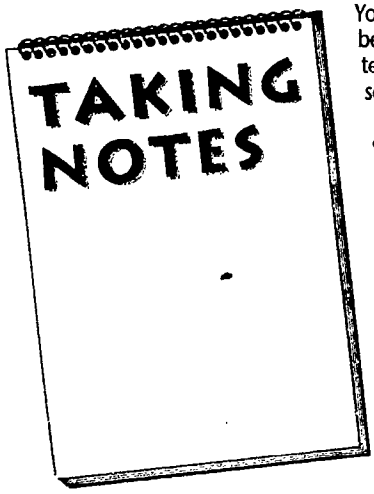


GETTING RESOURCES OVER THE PHONE

The phone is a crucial tool for anyone who wants to get things done. Keep a list of all the people whose numbers you call or will need. The group leader should keep a master list and group members should write names and numbers in their *Action Guides.*

PHONE TIPS:
- Learn to use the phone book. The Yellow Pages list businesses by category for when you know what you want to buy but not who sells it; hardware stores or garden supplies for example. The blue pages list government agencies and the white pages list individuals and, in some places, businesses. If your phone book has gray or red-edged business pages, this section will also list nonprofit organizations.
- Get permission to use the phone, especially if you will be calling long distance.
- Write out and use an introduction such as: "Hello. My name is Karen Jones, and I am from the Johnson County 4-H Water Action Club. We are working on a project to stencil storm drains so people know not to dump pollutants down them, and we would like your help." Repeat this information if your call is transferred to a new person.
- Write down all your questions, including what you need from the person or organization. Be specific.
- Have at hand your Action Guide and any other forms or materials you might need during the call.
- Ask for and write down the name of the person you get help from.
- Write down the information you get. Repeat information such as phone numbers or addresses to check that you heard them right.
- If they will be sending you anything, give them your name (again), and your group's address and phone number.
- Thank the person for helping your group before you hang up.
- If the person you are calling is not available, leave a short message with your name, phone number and reason for calling. If you leave a message with a live person instead of an answering machine, also ask when you may call back.
- If your contact has not returned your call in a day or two, call back. As long as you are polite, it is O.K. to call again until you get someone.

If you are uncomfortable calling someone (like the mayor), practice your phone call. Place two chairs back to back. Sit in one with another group member in the other playing the mayor. Ask a third person to listen and afterwards to suggest ways you could be more effective.



You need to write down much information and many details to complete your projects. It would be very frustrating if you lost the name and phone number of the person who promised to donate ten soaker hoses after you spent two hours tracking them down. You can't remember everything, so you need to keep and organize notes.

- Write in your *Action Guide* or a notebook, *not* on little pieces of paper. If you already have lots of little pieces of paper, copy the information or tape the notes into your *Action Guide.*
- Write a date by each entry so you know which information is most recent.
- If several people are writing notes in the same book or form, write your initials by each entry.
- Don't write every word someone says. Think like a reporter. Answer the most important questions: "who?" "what?" "when?" "where?" and "why?" Sometimes you'll need to ask "how?"
- Look back over your notes as soon as you are done writing to make sure you haven't left out anything important and that you can read your own writing.

GET THE MOST OUT OF INTERVIEWS

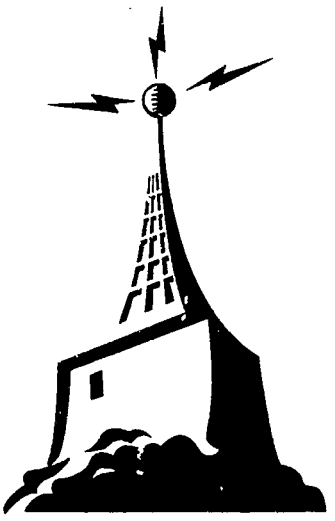
- Call or write to set up an interview in advance. Tell the person what you are doing and why you want to talk to them. If you have specific questions, tell them to the person in advance so he or she can look up or prepare answers.
- Write your questions and number them. Number answers to match the questions. Staple your notes to your book or copy the most important points.
- If a person is coming to meet with you, give them accurate directions and, if possible, a simple map showing the route and where to park.
- This is one time when you should write on blank paper rather than in your *Action Guide* since you may run out of room. *See Taking Notes, above.*
- Be on time. Dress nicely to show respect. Be polite.
- Listen. Smile and show that you are interested. Make eye contact.
- Don't interrupt the person.
- Thank them at the end of the interview and then send them a brief thank you note. They will remember you positively.
- Never interview someone by yourself. Always have an adult go with you.

WORKING AS A TEAM

One key to completing your project is how well you work together as a team. Each of you will need to be a leader. And each of you will have to be a supportive follower. Take turns at each of the roles below:

ROLES IN SUCCESSFUL GROUPS:

- **Recorder:** Take notes of important ideas. Write group decisions. Read back what you write so everyone can say whether you got it right.
- **Time Keeper:** Help set realistic amounts of time to discuss each item on the agenda. *20 minutes for progress reports, 10 minutes to pick the date for the final party, etc.* Watch the clock and remind the group when your planned time is up.
- **Participation Checker:** Watch to see that everyone gets a chance to talk and that group members don't interrupt each other. Give feedback at the end of the meeting about how the group did.
- **Leader:** Set the agenda. Get input on the agenda from group. Make sure everyone knows the goal for the meeting. Keep everyone working on the task. You are *not* the boss, but you are an organizer in charge of the meeting.



WORKING WITH THE MEDIA

Even if you don't want to be famous, it is worthwhile to get the story of your project in newspapers, and on radio and T.V. to alert people to the issues you care about. News organizations generally like to cover projects by youth, especially if they can get interviews or interesting pictures such as building compost bins or planting trees. Partners can be very helpful and may even know reporters personally.

- Write a brief description with your main points. What message do you want to get across? Why is this event important? How will it affect people and the environment in this community? Tell who, what, when, where and why your project is happening.
- Put the description in a news release, a one page memo, and send it to local news organizations. *(See sample text below.)* Write "news release" and a contact and phone number at the top. It must be double spaced, typed or a very legible computer print-out – not hand written. Get media phone numbers from the Yellow Pages of the phone book, then call to get names of the reporters covering the environmental or youth "beat," and their addresses or fax numbers. Don't be afraid to talk to the reporter directly. If he or she is busy just then, arrange to call again. Send press release two weeks before an event, then follow up with a phone call the day before.

TELL YOUR STORY

You will need to tell people what your group is doing. You may explain to a water expert so he or she knows how to help. You may speak to a school assembly. You may tell government officials or business people about a problem or solution so they can do something about it.

- Prepare. Think about who you will be talking to *(your audience)* and what you need them to know. List words to remind you of key points and number them. What do you want your listeners to do after you speak?
- How much time will you have? Practice once or twice with a clock.
- Speak slowly and loudly.
- Show and tell. Pictures, videos and other evidence of your work will get attention. Think how else you could make your presentation interesting and memorable.
- Keep It Short and Simple, *(KISS)*.
- If you will be speaking to a school board or other official group meeting, find out if they have procedures or rules you need to follow.

FOR IMMEDIATE RELEASE

January 6, 1995

Contact: Jamal Harris, Leader
Pine Valley 4-H Club
(000) 000-0000

4-H Club Shows Environmentally Friendly Products

The Pine Valley 4-H Club will demonstrate environmentally friendly cleaning products on Saturday, January 21 at the Pine Valley Shopping Mall, 2801 South Garden Street from 10:00 a.m. to 3:00 p.m.

Provide a few details about why this is an important issue and what you will do at the demonstration.

Together with the Valley Public Water Utility and the Pine County Office of Waste Management, the Pine Valley 4-H Club began in October of last year to research water quality management issues. They identified a need to help consumers choose the most environmentally friendly cleaning products for home use.

Pine Valley 4-H Club's project is part of *Give Water a Hand*, a national campaign by youth to identify and address water issues in their communities. More than 20 national environmental and water management organizations have collaborated to support *Give Water a Hand*. Local programs from across the United States will be recognized for their efforts during National Drinking Water Week 1995, May 7-13.

22

TEAM BUILDING GAMES:

The games described below and on the following page can help group members get to know each other more quickly and will strengthen their ability to work together. Take time to talk after each game using the suggested questions or make up your own. *See Reflection on Experience page 16 for more tips on how to help youth learn effectively from their experiences.*

ICEBREAKER: RIVER JUGGLERS

Purpose: Get to know each other.

Materials: Tennis or other small balls, list of rivers.

Activity Level: Moderate.

Time: 10-20 minutes.

Description: Did you ever see anyone juggle water? Sit in a circle on the floor. Participants each pick the name of a local waterbody (or well known river of the world). Participants go around the circle and introduce themselves as "Mike Rhine," "Kati Orinoco," etc. Begin the game by saying the name and waterbody of a youth as you toss them the ball. He or she says the name and river of another participant and tosses the ball across to them. Continue until everyone has had the ball at least once. Now speed up. When this gets easy, add one or two more balls.

River	Location
Darling	Australia
Ganges *(gan-gees)*	India
Yangtse *(yang-see)*	China
Volga	Russia
Niger	West Africa/Nigeria
Congo	Congo
Parana	Brazil/Argentina
Amazon	Brazil
Nile	Sudan/Egypt
Indus	Pakistan
Tigris	Turkey/Iraq
Danube	Eastern Europe/Romania
Rhine	Germany/Holland
Thames *(tems)*	Britain
Orinoco	Venezuela
Columbia, Snake, Missouri, Mississippi, Colorado, Rio Grande, Ohio, Tennessee, Red, Arkansas, Hudson, St. Lawrence, Connecticut, and Swanee	United States

Questions:
Who can name every person in the group?
With their rivers?
Why did each of you choose the river you did?

COMMUNICATION: *SPACE CARRIERS*

Purpose: 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 three foot lengths of string to a rubber band. *See picture below.* (four for eight people, five for ten) Do *not* put around cup in advance.

Activity Level: Moderate.

Time: 30-40 minutes.

Description: Break into groups of 8 or 10. Each group forms a circle. Everyone picks a buddy. Blindfold one buddy from each pair. Tell a story about a team of astronauts who must carry a valuable liquid *necessary for life itself* onto their space ship using a special carrier to protect them from contamination. Their space suits aren't working, so one buddy in each pair can't see, and pairs may not speak with other pairs.

Set a paper or styrofoam cup of water on the floor in the center of each group. Hand each blindfolded member of a pair the loose end of a piece of string. Tell groups they have to use the carrier to pick up the cup ***No touching cup or rubber bands!***, lift it off the ground without spilling and move it 20 feet to a second designated spot. *When youth pull on all strings equally, they can stretch the rubber band large enough to fit over the cup. When they slowly release strings, the rubber band fits snugly around the cup so it can be lifted.*

Remind them that only the blindfolded buddy may touch the string and that buddies may only speak with their own buddy. They have five minutes. 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.

Questions:
The valuable liquid is water. Why is it valuable?
Was the task difficult?
Why?
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?

4) ADAPTING MATERIALS FOR OTHER AUDIENCES

ADAPTING *GIVE WATER A HAND* FOR DIFFERENT AGE GROUPS

Give Water a Hand was written and tested for grades 4-8. You may need to adapt it for your group. This section offers ideas for adaptation. At any age, youth 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 clean ups to making posters as well as learn about local water supply and simple 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, needs 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 20-21 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 TO 10TH GRADERS

Older youth with past experience on service projects will want 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 needs checklist to policy-making bodies and other landowners. They can do bigger projects. They might do individual service projects, possibly preparing a final report on the impact of their work complete with a detailed watershed map showing all work locations.

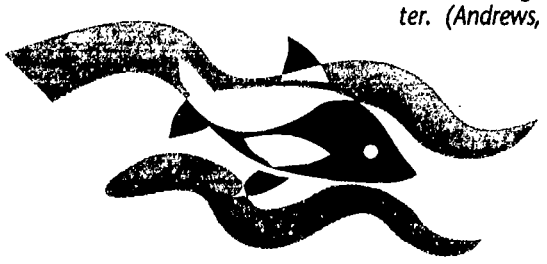
Older youth can work and think at higher levels. They could carefully document observations and tests, relate observations to a broader ecological and human context, explain/predict how factors have or will change over time, analyze and/or synthesize information and situations, develop alternative approaches,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

HIGH SCHOOL JUNIORS AND SENIORS/COLLEGE STUDENTS AS PROGRAM LEADERS

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, preparing a public report evaluating local water issues, conducting an interdisciplinary study of a local waterbody, then developing and implernenting recommendations for action.

One of the most effective projects older youth can do is to lead small groups of younger children *3rd 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 or youth workers 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, 1992)*



USING *GIVE WATER A HAND* WITHIN A K-12 SCHOOL CURRICULUM

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

Give Water a Hand was developed primarily for use in youth groups and other extra-curricular educational settings. 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 to learn everything from the biochemistry of aquatic ecosystems to government regulations, from drawing posters to making budgets, from writing business letters or speeches to calculating surveys of people or animal populations.

Water study in school can help students investigate the details behind local water issues. Here are a few strategies to use with water-related 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 which 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, 1992).*
- **Health:** Students could invite guests from drinking water utilities. The experts could share information about the local water supply and possible threats to it.
- **Water Science:** Students could test physical and chemical properties of a local water body and recommend changes in water use based on their data.
- **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 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 a major project including thorough preparation of 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, 1992).*

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.

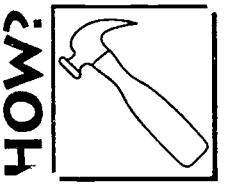
5) NUTS AND BOLTS

Following are practical management issues for youth service projects. Some portions are adapted from *Learning by Giving: K-8 Service-Learning Curriculum Guide, (Cairn, 1993).*

LIABILITY

Professional responsibility as well as concerns about legal liability require leaders of youth service projects to ensure safety. "Safety Issues: Risk Management" *page 12,* is included in the Project Plan. Make sure youth are adequately supervised by you or another responsible adult. The bottom line is 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 your liability coverage is adequate for the project you plan. An addition to your policy to cover your activities should not be expensive. The more clearly you lay out (ideally in writing) procedures, policies and responsibilities of all parties, the better your protection against lawsuits.



FUNDING

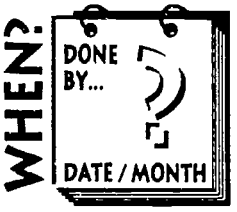
Funding needs for most *Give Water a Hand* projects should be minimal. If you do need funds, however, your best bet is to try local sources: individuals, civic groups, businesses, community organizations, government agencies, community foundations or local corporate or nonprofit foundations. Your Partner is an essential contact, even if he or she has no money to give. Rather than cash, you are more likely to get in-kind donations such as tools, seedlings, paint, or use of vehicles or copiers. Help youth develop and submit funding proposals including a budget. Funding cycles may be quite long – as much as a year for some organizations. Plan ahead.

Long-term projects 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. The U. S. Environmental Protection Agency offers regional grants up to $5,000 for environmental education programs.

TRANSPORTATION

Most projects can 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.

Partners, parents or other volunteers may be able to drive. All drivers must have current driver's licenses and insurance. All participants must wear a seat belt.



FINDING TIME FOR SERVICE PROJECTS

You may need to arrange for a few hours outside regular meeting or class room time in order to complete service projects. 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 may wish to 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 23.*

INVOLVING FAMILIES

Parents or guardians can provide welcome supervision and/or expertise to a project. In addition, youth whose families are involved in community issues are far more likely to stay involved themselves. Possible roles include:

- Planning and organizing with the group
- Identifying projects
- Scouting out service sites, collecting materials or equipment
- Helping with Needs Checklists, Watershed Mapping and other activities as well as with service projects, especially if the group must split up at any point
- Presenting background information or training, for those with relevant expertise
- Providing transportation
- Evaluating the program, personally and by interviewing community contacts
- Contacting the media
- Organizing a final celebration or recognition

As with any volunteers, clearly explain to parents or guardians their roles and responsibilities. Clearly explain your own role as project leader. Encourage them to give feedback.

Whatever their role, it is imperative that you keep parents or guardians 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.

EVALUATION AND PROGRAM IMPROVEMENT

To ensure that your program meets the needs of the youth involved as well as the needs of community Partners and of the environment, you can take some basic steps to evaluate your program.

If you would like to take part in a national evaluation of *Give Water A Hand*, call the national office at 1-800-WATER20.

Evaluation need not be expensive or 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. Once you collect the data, be sure to include time in planning and staff meetings to analyze what you have learned and figure out what to do with it.

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

6) RESOURCES

NOTES

- Andrews, Elaine, and the Cooperative Extension National Review Team. 1992. *Educating Young People about Water: A Guide to Goals and Resources - With an emphasis on nonformal and school enrichment settings.* Limited copies available from University of Wisconsin-Madison, Environmental Resources Center, College of Agriculture & Life Science, Madison, WI 53706. Contact your state 4-H Office; or access from ERIC Documents, #ED361224.
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- Lewis, Barbara. 1991. *The Kid's Guide to Social Action.* Free Spirit Publishing, Minneapolis. (800) 735-7323.
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- Quest International. 1994, Draft. *Lions-Quest Skills for Action.* Adapted from "Teacher/Instructor Readiness and Experience." Quest International, 1984 Coffman Rd., Newark, OH 43055. (800) 837-2801.
- Virginia Water Resources Research Center. 1983. *Be Water-Wise.* 617 No. Main St., Virginia Tech, 617 North Main St., Blacksburg, VA 24060-3397.
- 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)-8-Releaf

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 campaign and has an extensive Youth Education Program. For information on who to contact in your area, write to AWWA, Public Affairs Department - Give Water A Hand Project, 6666 W. Quincy Ave., Denver, CO 80235, (303) 794-7711 ext. 4114.

THE BLUE THUMB PROGRAM

The Blue Thumb program was originally developed as a theme for National Drinking Water Week 1991 by the American Water Works Association (AWWA). The goal of the Blue Thumb program is to make taking care of water second nature, to encourage habits that protect and conserve water, and to encourage public participation in drinking water matters.

The popularity of the Blue Thumb concept, design, and materials have created several off-shoot programs, the Blue Thumb Club, Blue Thumb Brigades, Blue Thumb Summits, Blue Thumb newsletters, Blue Thumb Business Awards, Blue Thumb patches, and Blue Thumb Browses, for example. To find out more about these programs, and how your group can participate in Blue Thumb activities, contact the National Drinking Water Week Headquarters, 6666 E. Quincy Ave., Denver, CO 80235, (303) 794-7711.

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— soil and water conservation district. You might also find a listing under U. S. Government, Department of Agriculture, Soil 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 MARINE EDUCATION ASSOCIATION

The National Marine Education 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.

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.

SOIL CONSERVATION SERVICE

The Soil Conservation Service (SCS), U. S. Department of Agriculture, has offices in nearly every county to assist the nation's private landowners to conserve, improve and sustain all natural resources through conservation programs and practices. Most SCS education and volunteer activities are locally based. Youth and leaders should contact their local SCS office for assistance, opportunities and materials. Check your local telephone directory under U. S. Government, Department of Agriculture, Soil Conservation Service, for the address and telephone number of your nearest Soil Conservation Service office.

TROUT UNLIMITED

Trout Unlimited (TU) is the nation's leading non-profit coldwater fisheries conservation organization and has over 75,000 members in 435 chapters across the country. TU's mission is to conserve, protect, and restore coldwater fisheries and other watersheds. Coldwater fisheries include trout, salmon, steelhead and all other organisms that are part of coldwater ecosystems. TU chapters work at the local level to restore trout and salmon waters degraded by pollution, clean up litter on streams and rivers, and teach the public about the ecological and economic importance of healthy streams. TU chapters also hold classes to teach people how to fly fish, tie their own flies, and build fishing rods. To find out how you can participate in local TU projects and programs, call TU in Virginia at (703) 522-0200

U. S. 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 841-B-94-001. 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 on-going 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.

U. S. 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 Office of Training and Education, 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.

U. S. 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.

U. S. 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 cosponsors such well known programs as Project Learning Tree, Project WILD, and Project WET. To find your state's contact person for these programs, contact WREEC, 4014 Chatham Lane, Houston, TX 77027. (713) 520-1936.

GIVE WATER A HAND

LEADER GUIDEBOOK

PROMOTING GOOD WATER MANAGEMENT PRACTICES AT HOME AND IN THE COMMUNITY

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National 4-H Council
National Aquarium in Baltimore
National Association of Conservation Districts
National Marine Education Association
Project WET (Water Education for Teachers)
Tennessee Valley Authority
Trout Unlimited
USDA Cooperative Extension System
USDA Extension Service
USDA Forest Service
USDA Soil Conservation Service
US EPA Office of Water
US Fish and Wildlife Service
US Geological Survey
US National Oceanic and Atmospheric Administration
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The Blue Thumb Program, a joint effort for National Drinking Water Week, in cooperation with the American Water Works Association