

# AGUA PURA

## A LEADERSHIP INSTITUTE PLANNING MANUAL FOR LATINO COMMUNITIES

*Un manual de planeamiento del  
instituto de liderazgo para  
las comunidades latinas*

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Santa Barbara  
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CA Aquatic Science  
Education Consortium



Give Water  
A Hand



CA 4-H Youth  
Development



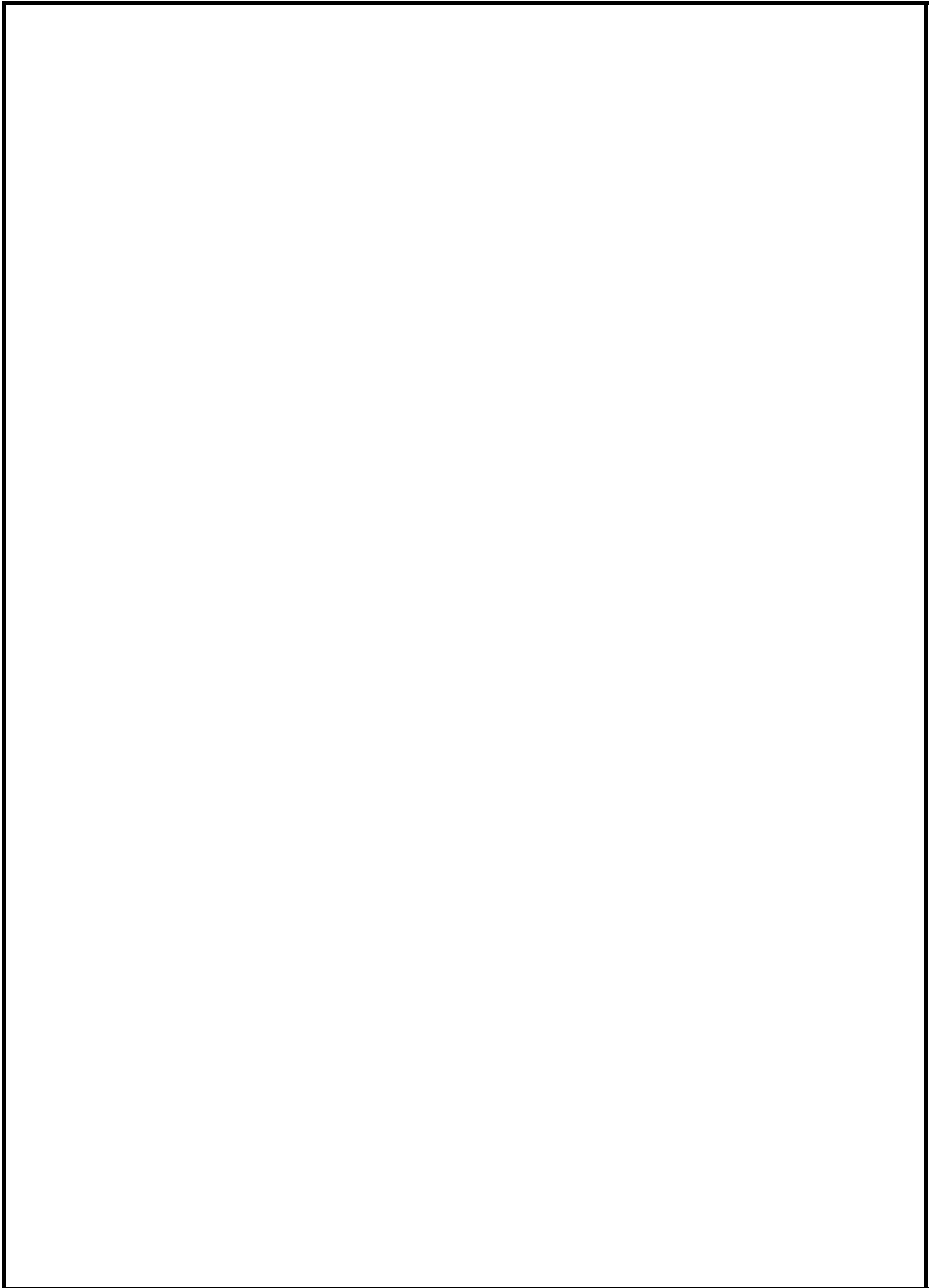
Santa Barbara County's  
Project Clean Water

## Adopt-A-Watershed

## GREEN—Global Rivers Environmental Education Network

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# Introduction and Overview

## Why Watersheds and Why Local Protection

Despite huge improvements and widespread education programs, drinking water and surface water quality are still at risk. Many communities are unable to provide or protect high quality drinking water and/or citizens are unaware of how to ensure that their drinking water supplies are safe. According to the US Clean Water Action Plan, about half of the waters assessed by states are still unsafe for swimming and fishing. Continuing problems include fish advisories arising from toxic contaminants, costs of dredging sediments to maintain navigation, and biological contaminants. US EPA's Safe Drinking Water Act targets source water protection. The Clean Water Action Plan targets a watershed approach. Both new water initiatives support community-based programs that strengthen community health, natural resources stewardship, polluted runoff standards and controls, and involvement of citizens.

## The Agua Pura Leadership Institute

Citizens have a variety of backgrounds, experiences and education. To involve citizens, local efforts must match citizen needs and interests. The Agua Pura Leadership Institute is focused on improving understanding of public education and involvement for citizens with a Latino background. Recognizing that youth are important partners in protecting local water quality, the Leadership Institute focuses on providing support and resources for youth watershed education.

Santa Barbara County, California, was chosen as the project site for developing a model for involving Latino youth in watershed protection. Reasons included high local interest, a large Latino population, and severe water quality problems that could be improved through a public education and action program. Watersheds in the Southern Coastal region of California surround streams that drain directly to the ocean. Local water problems include beach closings due to bacteria contamination and poor quality as a result of drought. Problems are thought to be caused by a combination of factors including broken sewer lines, runoff from horse farms, pet waste runoff, poor septic field maintenance, and inappropriate use of restricted water resources.

Agua Pura was born at a 1998 watershed action workshop for teachers and agency representatives, sponsored by the University of California - Santa Barbara County Extension. Participants unanimously supported creation of a Leadership Institute that would encourage and support expanded capacity among County educators and natural resource professionals to involve youth in watershed protection. Workshop participants included teachers, volunteer youth leaders, representatives of City and County water agencies, the Community Environmental Council which acts as a clearinghouse for all

County watershed activities and supports a citizen monitoring program, and a marine biology professor from Santa Barbara City College.

Agua Pura is a partnership of Cooperative Extension's Give Water A Hand, Santa Barbara County Cooperative Extension's 4-H Youth Development Program, and Santa Barbara City College and is a partner in Santa Barbara County's Project Clean Water Initiative.

### **Model Approaches to Watershed Education**

While some members of our communities may be more affected than others by water-related health risks and quality of life issues, personal or community barriers may limit their involvement in local water quality protection activities. Watershed agencies and organizations, and water educators are in the same communities, but in many cases have not found ways to link their goals and skills.

The connection between community water problems and the formal school community needs to be strengthened.

#### Goals for Improving Youth Education for Sustainable Community Water Resources

- Share expertise among all the people involved
- Enhance capacity of the infrastructure
- Identify and promote keys to success

Unique national youth watershed education resources were selected as a foundation for the Leadership Institute. *Give Water A Hand* is a youth action campaign developed in partnership with several federal agencies and non-profit organizations and has Cooperative Extension contacts in over 40 states. The Global Rivers Environmental Education Network (GREEN) supports school-based watershed studies and community action. Adopt-A-Watershed is a national school-based watershed studies program that provides a K-12 sequence of science concepts linked to a community action component. The California Aquatic Science Education Consortium (CASEC) programs, materials, and educators provide model education resources.

Since 1997 GREEN and USDA Cooperative Extension have worked to combine their strengths to better support youth environmental stewardship. Both programs emphasize education reform goals: community action as a foundation for development of citizenship skills; an opportunity to learn-how-to-learn by practicing skills needed to apply knowledge in real situations; and a first-hand look at career interests by working closely with local professionals.

## Strengthening the Connection Between Schools and the Community

There are three national programs that offer a step-by-step approach to building connections between schools and the community in environmental education stewardship programs. GREEN'S program, described in the *Sourcebook for Watershed Education*, was designed to support school education committees. Extension's *Educating Young People About Water* series and *Give Water A Hand – Youth Action Guide* start with the community and supply specific resources, guidance, and youth activities that support each step. Their recommendations for ways to strengthen the connections between schools and communities are listed in Appendix A. Information about how to obtain these guides is provided in Appendix D.

## Pilot Study Description

The Leadership Institute in Santa Barbara County was designed by UC Cooperative Extension—Santa Barbara County, Santa Barbara City College, County public health and water agencies and local Latino and environmental groups. The Institute was developed to provide support for youth leaders who can involve Latino youth in understanding local water quality issues and local water protection. The focus of the Institute was on local watershed issues, strategies to involve the Latino community and how resources should be adapted to local needs and interests. The Leadership Institute relied on local expertise to address environmental science, the arts, computer resources, youth qualities, and education processes. Education resources from Give Water A Hand, Global Rivers Environmental Education Network (GREEN), Adopt-A-Watershed, and California Aquatic Science Education Consortium (CASEC) served as the foundation for improving understanding of how to involve local youth in watershed protection. Latino community leaders and other community members were involved in learning to use these materials and then analyzed how the materials could be adapted for local use.



## Pilot Study Findings

What we have learned about the City of Santa Barbara:

- Latino neighborhoods are located where creeks are dirtiest from upstream.
- Kids play in creeks, families use beaches, youth are exposed to or participate in water sports.
- People are interested in the problem; they learn about water issues from TV, especially due to public information about the drought.
- In some communities, health issues are of primary concern; chemical pollutants are present in drinking water; families like to fish and eat the fish they catch—they often fish in or near the harbor where pollutants are likely to accumulate.
- Latino community members are not generally involved in water protection issues—due mainly to language and cultural barriers.
- Generally, outreach workers don't speak Spanish and are not familiar with the Latino community.

Agua Pura Continues

Relying on a small army of local college students led by one of the participants in the pilot Leadership Institute, Agua Pura continues to involve Latino youth and youth leaders throughout Santa Barbara County in workshops, camp programs, and after-school activities.

Reaching the community:

*Education programs should:*

- Engage bilingual and bicultural staff.
- Provide family-oriented activities.
- Involve community in program development and planning.
- Rely on person-to-person outreach.

*Education topics should:*

- Stress health related issues.
- Link to fishing and recreation activities.

*Education materials should:*

- Be adapted and translated well into Spanish – check that they are understood by participants.
- Use familiar images and icons.
- Integrate cultural activities, including arts, poetry.

*Other education programs can increase attention to water:*

- Math and science summer programs can integrate watershed education concepts.
- People in education settings need opportunities to learn about the importance of water.



# Looking for Leaders

Latino individuals and families in your community are affected by local water quality. Youth can make a difference, but youth leaders need to know how to help. A Leadership Institute gives local leaders a chance to improve their understanding of local watershed issues, youth education materials and special approaches for Latino families.

To start planning your Leadership Institute you need to identify a group of people who want to help. This small group will form the **Steering Committee**.

## The Steering Committee will determine a preliminary goal for the Institute and will:

1. Plan With The Community
  - Form a Resource Committee
  - Provide background material
2. Consider Community Assets And Needs
3. Involve Interns
4. Get Specific! – Choose Education Goals
5. Plan the Leadership Institute
  - A. Identify Participants
  - B. Plan a Schedule
  - C. Design Institute Sessions
  - D. Design Individual Sessions
  - E. Develop a Budget
  - F. Develop an Evaluation Strategy
  - G. Finalize Details
6. Conduct the Institute
7. Reflect on Outcomes—Where Do We Go From Here?



**This manual provides you with the planning tools you need to complete these tasks.**

## TASK 1



### PLAN WITH THE COMMUNITY

The Steering Committee can appoint a **Resource Committee** of community members that can help identify local environmental problems and potential leaders for Latino youth programs.

#### **Resource Committee members may include:**

- Municipal and county watershed organizations
- Health departments and related natural resource organizations
- Environmental organizations: National (Audubon Society, Sierra Club, The Nature Conservancy) or local (land conservancies, urban creek organizations)
- Leaders of Latino youth and community groups
- Latino youth
- Other watershed issue stakeholders such as sports fishing groups, farm business groups, horse owners, recreation clubs or businesses

The Resource Committee can be an informal group that meets face-to-face or discusses topics via phone or E-mail. It meets as needed to accomplish tasks and can assist the Steering Committee by:

1. Identifying local water issues
2. Helping select important Institute topics
3. Identifying resource people, speakers and potential leaders
4. Providing advice about dates and sites
5. Recruiting potential leaders

**Provide background material** to help your Resource Committee better understand Institute goals. Make sure your budget provides enough funds to supply sample watershed education materials.

## Examples of Sample Watershed Education Materials

- *Sourcebook for Watershed Education*, GREEN
- *Give Water A Hand*, leader and action guides
- *Educating Young People about Water*, Vols. 1-3
- Any local water education curricula
- Sample materials specifically designed for Latino youth

These materials will help the Committee better understand the current state of water education and help them give you session ideas for the Institute. Details for ordering these materials are in **Appendix D**.

## TASK 2

### CONSIDER COMMUNITY ASSETS AND NEEDS

Once the Resource Committee is formed, conduct informal discussions or host a meeting to decide how to direct the planning of the Institute. Consider the following questions:

1. What are the critical water issues and their causes in this county/area?
2. How have Latino communities been impacted by water issues?
3. What is being done or has been done to address these issues?
4. How *are* Latino youth involved and how can their involvement be increased in such programs—especially through adult leadership?

Answers to these questions will help Committee members suggest Institute topics, the length of the workshop and guest speakers. Follow-up discussions with the Resource Committee can help develop ideas about the details of the Institute.

#### The Resource Committee and interns can determine:

- ✓ What is already known and how to publicize it
- ✓ What new information is needed and how to get it

## TASK 3



### INVOLVE INTERNS

Involving local Latino college students as interns provides an outstanding opportunity to link their access and knowledge about the Latino community to the support of potential watershed leaders. Interns provide a relatively inexpensive way to accomplish a variety of jobs associated with planning and conducting an Institute. And, of course, internships are important educational and professional development opportunities for students.

#### Interns can help to:

- Identify education needs and current activities
- Plan and schedule the Institute
- Recruit participants
- Make connections within the Latino community
- Facilitate logistics during the Institute
- Conduct follow-up activities, including evaluations

Interns will benefit by taking part in the Institute and by meeting local educators. They'll learn how to plan and conduct a Leadership Institute and how to design and present follow-up activities. See **Appendix B** for the pilot project's intern activity report.

Your Resource Committee and local universities are good sources for recruiting interns. Some colleges/universities may be willing to give credit to interested students. You should also check with local Latino educators who may be aware of college students looking for such opportunities.



## TASK 4



### GET SPECIFIC! – CHOOSE EDUCATION GOALS

How will community leaders involve Latino youth? The Leadership Institute will be successful if you know exactly where you want to go. The resources in this manual are designed to help you accomplish the following general goal:

*Plan and conduct a watershed education leadership Institute that will help community leaders involve Latino youth in studying and addressing local watershed problems.*

The focus of the Institute may be:

1. Investigating Latino community needs and interests in local watershed issues.
2. Examining strategies to involve the Latino community in watershed education.
3. Learning how to adapt resources to Latino needs and interest.

Using these ideas, your committee can formulate its own specific goal and focus of your Institute.

## TASK 5



### PLAN THE LEADERSHIP INSTITUTE

Once you have determined the goals for your Leadership Institute you are ready to plan the Institute itself. Begin the planning process by asking some basic questions. Who are likely participants? When are they available to attend? What skills will participants want? When can you schedule the Institute? What kind of budget will you need? How will you fund the Institute? Use the following guidelines, A through G, to help answer these questions.

## A. Identify Participants

The target audience of the Institute is education and community natural resource professionals who are interested and/or involved in local water quality issues and local water protection. For this Institute, emphasis is placed on recruiting individuals who work with or plan to work with local Latino youth.

## B. Plan a Schedule

When planning the schedule for the Institute consider the following factors:

- ✓ Who will be your audience – will it be teachers, nonformal educators or both? Typically teachers are more available during the summer months or only on weekends.
- ✓ When will potential participants be available?
- ✓ How many days will the Institute last?
- ✓ Should the Institute take place on concurrent days or should it occur on separate days, for instance the first Saturday of every month?
- ✓ How much time do participants want for working together on new skills?
- ✓ What are the typical weather conditions for that time of year? Remember, you will probably be planning a field trip, so cold weather may limit your water study capabilities. At the same time, summer may mean dry streams and dangerously high temperatures.

## C. Design Institute Sessions

Develop a draft schedule and sessions to put some structure into your planning. This will help you develop a budget for the Institute.

To plan each day's sessions, it is helpful to have daily goals. Design specific days or sessions that match these goals. For example:

## **DAY 1**

### **EXAMINING COUNTY WATERSHED ISSUES**

#### **Goal: Understanding Your Community Environment**

This day is devoted to familiarizing participants with local watershed issues and showing them how to assess local watershed quality. To explore needs, leaders need to meet with local experts and learn how to conduct basic water quality studies. Participants should also explore current involvement of their local Latino community in water issues.

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## **DAY 2**

### **WATERSHED, YOUTH AND THE LATINO COMMUNITY**

#### **Goal: Understanding Youth In The Community**

Youth leaders need to better understand the youth they work with and how to be more effective leaders. These sessions can focus on ways to enhance leader ability to facilitate youth activities and build relationships with the help of resources available locally and nationally.

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## **DAY 3**

### **LINKING EDUCATIONAL OPPORTUNITIES TO YOUTH NEEDS**

#### **Goal: Making the Connection— Linking Community And Youth Needs To Education Opportunities**

Leaders need to know how to implement programs in their communities and how to design youth education programs that meet school, youth and community needs. They need to know what materials are available for youth education and how they can link watershed projects to education opportunities, either in a school setting or a nonformal setting.

## D. Select and Design Individual Sessions

As you think about Institute sessions, try to include a variety of presentation styles such as: hands-on workshops, roundtable discussions and lectures.

*Important sessions to consider including are:*

*Local Watershed Issues Roundtable*  
Speakers from local organizations discuss their roles relating to local watershed issues.

*An Introduction to Watershed Education* – This session can be designed to answer three main questions:

- ✓ What is a watershed?
- ✓ Why do a watershed program?
- ✓ How do you map a watershed?

*Exploring Watersheds* - This session is hands-on. Participants travel to a local stream or lake and learn how to use water ecology or assessment tools.

*Online Internet Resource Workshop*  
This session introduces participants to the many water resources available online.

*Reinforcing Youth Resiliency: Engaging Youth and Community* - A speaker discussing research about youth resiliency will help participants understand adolescent developmental behavior and how it relates to youth involvement in similar programs. (See details in Appendix E.)

*Involving the Latino Community: A Panel Discussion* – Local community members provide a panel discussion about ideas and issues to consider when involving the Latino community in water education programs.

*Creating Artistic Connections* - Invite local artists to illustrate how art-based opportunities can be incorporated into watershed education.

*Integrating Watershed Education into School Curriculum* - This session helps participants understand how to integrate watershed education into a school program.

*Community Education Planning Activity* - Participants learn and practice the steps they can follow to start a youth water program.

*Group Feedback Session* - This session helps participants integrate information they have learned from the Institute and develop their own plan for local leadership.

(See **Appendix E** for a sample agenda and session descriptions.)



## E. Develop a Budget

When developing your budget, you will need to consider a variety of potential costs including:

- Printed background information about local watershed issues and education resources that you feel may be helpful for your Resource Committee
- Participant supplies - water monitoring kits, curricula, folders, etc.
- Institute supplies - field trip materials including bug boards, leaf pack bags and macro-invertebrate flashcards
- Speaker handout(s)—purchase or duplication
- Bag lunches and other refreshments, as needed
- Substitute teacher salaries or participant honoraria. (This is highly desirable.)
- Transportation to fieldtrip sites
- Room rental

A sample Institute budget is provided in **Appendix C**.

Participant supplies will vary according to your Institute plans. We suggest ordering items participants can “try out” during the field trip sessions. An especially valuable item to order is the low-cost water monitoring kit from GREEN. (See Appendix D—page 2.)

If your budget is not large enough to include participants’ honoraria in addition to purchasing supplies, you may want to offer participants funding for the purchase of relevant water education materials to keep for their own uses. Provide an order form at the Institute that allows participants to select items up to a set total price.

## F. Develop an Evaluation Strategy

Your evaluation strategy depends on the goal for your Institute. The purpose is to give you information about participant and speaker experiences in the Institute, how participants plan to use what they learned and what future activities will be needed to support participant goals. For the pilot project, we provided a questionnaire at the end of each day. The Steering Committee reviewed responses and talked with participants at the next session to get further details or advice. (See Appendix G.) Finally, the Resource Committee will meet to consider the overall initiative and make recommendations about how to take the next steps.

At the end of each Institute day, participants should be given the opportunity to evaluate the day's sessions. Be sure to leave time for this in the agenda. Results from the evaluations can be used to modify future Institute designs. Evaluations also provide good opportunities for participants to personally reflect on their experiences each day. Sample evaluation forms are found in Appendix G.

## G. Finalize Details

### 1. Curricula and Resources

Committee members and Institute leaders will find a variety of curricula and materials listed in Appendix D that will help them develop and implement their Institute plans. Some of these resources are available in Spanish.

You may want to provide the participants with sample curricula and resources including *Give Water A Hand*, *Educating Young People about Water*, *California Aquatic Science Education (CASEC)* materials and *Adopt-A-Watershed* materials.

- ✘ *Give Water A Hand* materials show leaders and youth how to plan and complete a watershed service project and are available in Spanish (*Action Guide* only).
- ✘ *Educating Young People About Water* includes a volume listing available water curricula and another volume describing how to plan a program that involves youth in improving local water quality or quantity.
- ✘ *CASEC* materials are outstanding watershed resources on specific topics. They are available in English and Spanish.
- ✘ The *Adopt-A-Watershed* curriculum overview manual describes how *Adopt-A-Watershed* incorporates water education into education standards.

### 2. Select Meeting and Field Trip Sites

#### a. Meeting Sites

The Resource Committee can be a valuable source of information about a convenient and accessible meeting site for the Institute participants. A good site should have space for demonstrations (especially those using water), a water source, and computers with Internet access, if needed.

Sites to look at include:

- ✘ Colleges/universities that have lab space
- ✘ Local schools
- ✘ Public sites with space and computer access

When selecting a site consider:

- ✘ Accessibility to Leadership Institute audience
- ✘ Cost
- ✘ Space availability
- ✘ Computer availability if needed

### **b. Field trip sites**

Your Leadership Institute will include at least one outdoor, hands-on experience. It is important to identify potential field trip sites at least two months before the Institute. Sites to consider include city, state or federal parks, schools, and other public property or property open to public use. You will want to make sure the site will have stream conditions that will be appropriate to your activities. Stream flow can vary widely depending on the time of year. You will also want to check if an entrance fee is required and whether the site you want to visit will be accessible. Also be sure to check park, state and federal rules about collecting living items.

## **3. Enlist Speakers**

The Leadership Institute offers an opportunity for learning new information, sharing ideas, and making connections. The right speakers and resource people can influence the tone of the Institute and provide potential role models or inspiration for addressing issues in new ways.

The Resource Committee can be a great source for speaker ideas. Some Committee members may even be potential speakers. Recruit speakers at least two months before the Institute. You may want to recruit:

- Local water agency professionals
- Educators who have used water education in the classroom or other settings
- Local leaders of Latino organizations
- Local politicians to give you an idea of the local government's interest in water issues
- Local artists with a community perspective who incorporate water or the environment into their art and art displays.

*It is especially important to try to recruit Latino speakers to get a Latino perspective.* You may want to offer speakers honoraria or invite them to take part in the entire Institute.

Once speakers and resource people have agreed to help, provide them with detailed information about the Institute. An Institute information packet can include the Institute agenda, the goals of the Institute, goals for each speaker, the time they are needed and the name of a contact person. Also include directions to the Institute site.

You may also want to provide a form for the speaker to inform you of special equipment needs or if handouts need to be copied. Ask for a brief summary of the presentation.

Two weeks before the Institute, call each speaker and confirm the date and time of the presentation and whether any materials or equipment needed.

#### 4. Recruit Participants

- ✓ Work with the Resource Committee to identify local educators and organizations that serve the Latino community.
- ✓ Send recruitment letters to key contact persons in organizations on behalf of the Steering Committee.
- ✓ Ask Resource Committee members to help recruit participants by suggesting potential individuals and local organizations that serve the Latino population.
- ✓ Make follow-up phone calls to assure that potential participants notice and understand the Leadership Institute invitation.

Determine how many participants you can successfully accommodate. Consider these factors: the facility size; the manageability of the field trips; participant costs including meals, honoraria, materials, field trip costs.

Monetary or other incentives help attract participants. For example, if funding is available, offer to pay substitute teacher pay or an honorarium of \$100 for a participant who attends the entire Institute. Provide materials participants can use with their youth groups. For example: Tell potential participants that they will each receive a water monitoring kit (GREEN), a CD-ROM with local watershed maps, *Adopt-A-Watershed Curriculum Unit Overview Manual*, and a variety of water education resources for their involvement.

Invite participants at least two months before the scheduled Institute. Sample announcement, invitation and application forms are in **Appendix F**. To encourage serious applicants, you may want to request a nominal registration fee that is refunded to the participants when they attend the Institute. Ask participants to mail, fax or E-mail their replies by a set deadline.

Additional publicity can include: sending an E-mail announcement to relevant list serves, putting announcements in newsletters of organizations, posting announcements in teacher lounges, and word of mouth.

Once you receive a registration form, send a follow-up letter confirming the meeting arrangements.

## **5. Choose and Order Supplies**

The supplies needed for Institute sessions and field trips will depend on your agenda and speakers but most likely will include:

- Topography maps of the area for watershed mapping exercise
- Markers
- Spray bottles for watershed exercise
- Plastic gloves to protect participants' hands from polluted water
- Leaf packs, bug boards and macro-invertebrate flashcards for stream monitoring exercises
- Clip boards for stream survey note taking
- Flip charts

Order supplies at least 2 months before the Institute. For ordering information see Appendix D.

## **6. Order Institute Materials**

- Background information
- Participant materials to take home
- Institute supplies for teaching sessions
- *Give Water A Hand* materials show leaders and youth how to plan and complete a watershed service project and are available in Spanish (*Action Guide* only).
- *Educating Young People About Water* includes a volume listing available water curricula and another volume describing how to plan a program that involves youth in improving local water quality or quantity.
- *CASEC* materials are outstanding watershed resources on specific topics. They are available in English and Spanish.

- The *Adopt-A-Watershed* curriculum overview manual describes how *Adopt-A-Watershed* incorporates water education into education standards.

## 7. Make Arrangements for Meals and Refreshments

To save time, it is a good idea to offer lunches to participants. A local catering company can provide box lunches for the field trips and a buffet style meal for other lunches. Be sure to give participants special diet options on their registration forms and provide this information to the caterers. Refreshments (coffee, tea, soda, water) should be available during breaks.

## 8. Develop an Evaluation Strategy

At the end of each Institute day, participants should be given the opportunity to evaluate the day's sessions. Be sure to leave time for this in the agenda. Results from the evaluations can be used to modify future Institute designs. The evaluation process also provides a good opportunity for participants to personally reflect on their experiences each day. Sample evaluation forms are found in **Appendix G**.



## CONDUCT INSTITUTE

On the day of the Institute, committee members should arrive at the site one to two hours before the participants. The following is a list of things to do before the participants arrive:

- ✓ Place signs directing participants to the meeting room on all entrance doors and in any other appropriate locations.
- ✓ Place a large sign on the meeting room door identifying your group. If you are meeting at a facility such as a hotel conference room, make sure the staff is familiar with the location of your meeting.

- ✓ Set up tables.
- ✓ Provide a registration table with participant nametags and participant folders. Folders should include an agenda, evaluation forms and any handouts needed.
- ✓ Prepare refreshments.
- ✓ Set up flip charts, slide projectors, overhead projectors, etc.
- ✓ Set out materials for participants: materials to take home as well as display materials

When participants arrive, team members can greet them, give them their name tags and folders, answer any questions, offer refreshments and encourage participants to look at the display of materials. Make sure participants sign in and complete any forms necessary for honoraria payments.

Begin the workshop on time, as stated in the participants' invitations.

## TASK 7



### REFLECT ON OUTCOMES--WHERE DO WE GO FROM HERE?

Leadership Institute evaluations will help you decide what to do next. If possible, bring the Resource Committee back together to discuss results and devise a strategy for where to go next.

The pilot Leadership Institute led to continuing conversations among municipal officials, natural resource professionals and Latino groups. Perhaps more importantly, the Project Intern took a modified form of the Leadership Institute to many groups and situations. (See Appendix B.) What will happen in your community?

## APPENDIX A

### Steps for Linking Schools and the Community in Watershed Education

#### To get started:

1. Choose a water education goal.
2. Describe the water issue and the area involved.
3. Identify the community and people that affect and are affected by the water issue.

#### Organize a group of community members and Latino youth to develop a plan of action to address the water issue.

4. Understand the skills that community people need to address this water issue.
5. Know your target audience—special needs/interests, skills needed to take action.
6. Identify community organizations that might work with this target audience to address the water issue.
7. Refine water education goal to incorporate community needs and interests.
8. Work with partner organizations to develop program.
9. Work with schools and the community to identify and recruit participants
10. Deliver program.
11. Reflect on results.
12. Plan for the future.





## APPENDIX B

### Santa Barbara Intern Activities

The pilot project's student interns conducted the following activities:

- < Surveyed municipal officials and community leaders in Santa Barbara County to learn about watershed issues and, in particular, how the issues affect the Latino community.
- < Reviewed various watershed education materials, activities and programs, and advised program staff and collaborators about those that seem most relevant to Latino youth.
- < Assisted in the identification and recruitment of participating community organizations that serve Latino youth.
- < Helped introduce local youth leaders to the Agua Pura Curriculum (see below).
- < Provided follow-up assistance to leaders when they were launching Agua Pura projects in their groups or organizations.
- < Represented Agua Pura at various meetings and community events, such as a recent KESP radio event for the Latino community.
- < Developed an annotated bibliography of project materials, noting those that are culturally relevant.
- < Advised and assisted Agua Pura staff in creating culturally relevant program content. This included researching different folk tales from Latin America that use water as a topic or theme.

Luis Pinedo, project intern, adds, "The Agua Pura Project is also an applied research project designed to identify strategies that will educate and engage Latino youth (and their families) in watershed resource issues. I have found this to be very important, especially if we want the student to pay attention to a topic that is not very interesting (to most people). As a result, we have noticed that students tend to pay more attention once we relate our teaching to their backgrounds."

As of Spring 2000, the Santa Barbara interns have completed/participated in the following projects:

- Participated in the Agua Pura Leadership Institute.
- Introduced and taught the Agua Pura Project (see below) at places such as the Museum of Natural History, the Fun In The Sun Program and the Us Foundation.
- Represented Project Clean Water and the Agua Pura projects at the KSPE festival by handing out information and demonstrating the watershed model.

Projects that the Santa Barbara interns planned to complete in 2000 were:

- Conducting the activity, *A Walk By The Creek* (Creek Week).
- Working with the Isla Vista Teen Center on implementing an Agua Pura project at the Center.
- Implementing the Agua Pura project with Los Compadres.
- Working with a teacher at Santa Barbara High School to teach his students about water quality and watersheds.
- Implementing the Agua Pura Project at a Native American school program in Santa Maria.

### **The Santa Barbara Agua Pura Curriculum includes:**

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>1. A hands-on introduction to the concept of what a watershed is, using activities from <i>Give Water A Hand</i>, <i>Creek Watchers</i>, <i>Wetland Protectors</i> and <i>Fresh Water Guardians</i>.</li><li>2. An introduction to local watershed issues based on the research from <i>Project Clean Water</i> (a Santa Barbara County initiative).</li><li>3. Assessing water quality in various creeks and streams using GREEN's low cost water monitoring kit, leaf</li></ol> | <ol style="list-style-type: none"><li>packets and invertebrate sampling system, along with <i>Creek Watchers</i> stream walk activity lab sheet.</li><li>4. Assessing creek health in our local creeks, by using <i>Creek Watchers</i> Activity #3 – <i>Creekwalk</i>.</li><li>5. Developing creative writing skills by having a special instructor teach poetry writing through learning experiences. This stimulates the artistic side of students through drawing and art.</li></ol> |
|---|---|

## APPENDIX C

### Agua Pura Leadership Institute Sample Budget

#### Salaries

Institute project manager salary	\$9,625 (12 mos. @ 25% time)
Intern salaries	\$7,000 (1 intern for 12 mos. @ 30% time or 2 interns @15% time)
Honoraria for workshop design and presentation	\$3,000 (\$1000/organization GREEN, Adopt-A-Watershed and CASEC)

#### Supplies and Expenses

Office supplies and expenses	\$2,000 (phone, office supplies, duplication, fax, other)
Food supplies	\$ 250 (refreshments, box lunches)
Institute activity supplies	\$2,250 (includes GREEN low cost water monitoring kits, leaf packs, macro- invertebrate boards and cards, Adopt-A-Watershed hand-books, Educating Young People About Water books, Give Water A Hand Activity Guides, CD-ROMS and other miscellaneous workshop expenses)
Participant honoraria	\$2,000 (20 participants @ \$100/person)

#### Travel

Institute facilitators' travel costs	\$2,400 (\$1200/organization -- GREEN and Adopt-A-Watershed; CASEC provided a local expert)
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**TOTAL** \$28,525

Many items can be provided "in-kind" or  
as part of an organization's regularly budgeted activities.

## APPENDIX D

### Institute and Resource Materials

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## **1. Institute Materials and Ordering Information**

### **A. Sample Participant Supplies Provided to Agua Pura Institute Participants**

*Adopt-A-Watershed curriculum overview manuals.* Order from Adopt-A-Watershed, P.O. Box 1850, 98 Clinic Ave., Suite B, Hayfork, CA 96041. Phone: 530-628-5334  
Web site: [www.adopt-a-watershed.org](http://www.adopt-a-watershed.org)

*Give Water A Hand Leader and Action Guide plus Spanish version Action Guide.*  
Order for a small fee from one of the following organizations: University of WI–  
Extension (publications #4-H850 +4-H855) 608-262-3346, Conservation  
Technology Information Center (CTIC) 765-494-9555, Global Rivers Environmental  
Education Network (GREEN) 703-519-6877, National Drinking Water Clearinghouse  
(publication #DWPKE49) 1-800-624-8301 or Water Environment Federation  
(publication #ZS2602) 1-800-666-0206. The Spanish version of the Action Guide  
(*Ayúdale al agua—guía de acción*) may be downloaded free from the Give Water A  
Hand web site: [www.uwex.edu/erc/gwah](http://www.uwex.edu/erc/gwah).

*GREEN Low-Cost water monitoring kits.* Order from Earth Force Inc., 1908 Mount  
Vernon Avenue Second Floor, Alexandria, VA 22301. Phone: 703-299-9400. Web  
site: [www.earthforce.org/green/catalog](http://www.earthforce.org/green/catalog)

*Educating Young People About Water* - 3 volumes. Order from ERIC Clearinghouse,  
1929 Kenny Rd., Columbus, OH 43210-1080. Phone: 1-800-276-0462. Web site:  
[www.uwex.edu/erc/ywc](http://www.uwex.edu/erc/ywc)

### **B. Sample Handouts Distributed at Agua Pura Institute**

*A Dog Owner's Duty* - Project Clean Water, Santa Barbara County Public Health  
Dept. Order from Project Clean Water. Phone: 805-568-3546. Web site:  
[www.co.santa-barbara.ca.us/project\\_cleanwater](http://www.co.santa-barbara.ca.us/project_cleanwater)

*Conservation and the Water Cycle—Ag. Information Bulletin No. 326.* Order from  
United States Department of Agriculture, Natural Resources Conservation Service.  
Web site: [www.wcc.nrcs.usda.gov/factpub/aib326.html](http://www.wcc.nrcs.usda.gov/factpub/aib326.html)

*Creekside Concerns* - Project Clean Water, Santa Barbara County Public Health  
Dept. Order from Project Clean Water. Phone: 805-568-3546 Web site:  
[www.co.santa-barbara.ca.us/project\\_cleanwater](http://www.co.santa-barbara.ca.us/project_cleanwater)

*Gardener's Guide to Clean Water* - Project Clean Water, Santa Barbara County Public Health Dept. Order from Project Cleanwater. Phone: 805-568-3546 Web site: [www.co.santa-barbara.ca.us/project\\_cleanwater](http://www.co.santa-barbara.ca.us/project_cleanwater)

*Helpful Hints for Horse Owners* - Project Clean Water, Santa Barbara County Public Health Dept. Order from Project Cleanwater. Phone: 805-568-3546 Web site: [www.co.santa-barbara.ca.us/project\\_cleanwater](http://www.co.santa-barbara.ca.us/project_cleanwater)

*Water of Santa Barbara County* - Santa Barbara County Water Agency. Order from Project Clean Water. Phone: 805-568-3546 Web site: [www.co.santa-barbara.ca.us/project\\_cleanwater](http://www.co.santa-barbara.ca.us/project_cleanwater)

*Water Activities Manual: Student Workbook Grades 6-8* - Santa Barbara County Water Agency. Phone: 805-568-3546 Web site: [www.sbwater.org](http://www.sbwater.org)

*Water Activities Manual: Teacher's Guide Grades 6-8* - Santa Barbara County Water Agency. Phone: 805-568-3546 Web site: [www.sbwater.org](http://www.sbwater.org)

*What is a Watershed? Program Aid Number 420.* Order from: United States Department of Agriculture, Natural Resources Conservation Service. Web site: [www.wcc.nrcs.usda.gov/](http://www.wcc.nrcs.usda.gov/)

### **C. Sample Materials for Agua Pura Institute Resource Committee Members**

California Aquatic Science Education Consortium (CASEC) publications:

*Water Inspectors; Examining H<sub>2</sub>O*

*Freshwater Guardians: Defending Our Precious Supply*

*Wetlands Protectors: Guarding Our Wild and Watery Lands*

*Creek Watchers: Exploring the World of Creeks and Streams*

Order from 4-H SERIES Project, Human and Community Development, University of California, Davis, CA 95616. Phone: 530-752-9914 Web site: [www.rain.org/casec](http://www.rain.org/casec)

*Give Water A Hand Leader Guide, Action Guide and Action Guide in Spanish.* See ordering information on Appendix D, page 1.

*Educating Young People About Water.* See ordering information on Appendix D, page 1.

*Sourcebook for Watershed Education.* Order from Earth Force Inc., 1908 Mount Vernon Avenue Second Floor, Alexandria, VA 22301. Phone: 703-299-9400 Web site: [www.earthforce.org/green/catalog](http://www.earthforce.org/green/catalog)

## **D. Institute Supplies Used During Field Trip:**

- < Leaf Pack Bags
- < Bug Boards
- < Benthic Macro-invertebrate Flashcards

Order from Earth Force Inc., 1908 Mount Vernon Avenue Second Floor, Alexandria, VA 22301. Phone: 703-299-9400 Web site: [www.earthforce.org/green/catalog](http://www.earthforce.org/green/catalog)

## **2. Reference Materials**

### **\* Materiales también disponibles en español.**

#### **A. Curricula and Activity Guides**

*Adopt-A-Watershed Curriculum Unit Overview Manual.* Phone: 530-628-5334  
E-mail: [aaw@Adopt-A-Watershed.org](mailto:aaw@Adopt-A-Watershed.org)

\**Creek Watchers*, CASEC (CA Aquatic Science Education Consortium), University of California, Davis, CA. Phone: 530-752-9914 Web site: [www.rain.org/casec](http://www.rain.org/casec)

\**Freshwater Guardians: Defending Our Precious Supply*, CASEC (CA Aquatic Science Education Consortium), University of California, Davis, CA. Phone: 530-752-9914 Web site: [www.rain.org/casec](http://www.rain.org/casec)

*From Ridges to Rivers: Watershed Explorations*—order from San Luis Obispo County 4-H Office, 2156 Sierra Way, Suite C, San Luis Obispo, CA 93401 Phone: 916-752-8824

\**Give Water A Hand Action Guide (Ayúdale al agua—guía de acción)*—to order see Appendix D – page 1.

*Give Water A Hand Leader Guidebook*—to order see Appendix D – page 1.

*Give Water A Hand Training Packet: A Manual for Workshop Facilitators (Draft)*—to order contact Environmental Resources Center, University of WI. Phone: 1-800-WATER20

*Habitat and Biodiversity Student Edition* by E2: Environment and Education, published by Dale Seymour Publications, Menlo Park, CA. Phone: 1-800-872-1100  
Web site: [www.aw.com/dsp/](http://www.aw.com/dsp/)

*Habitat and Biodiversity Teacher Resource Guide* by E2: Environment and Education, published by Dale Seymour Publications, Menlo Park, CA. Phone: 1-800-872-1100 Web site: [www.aw.com/dsp/](http://www.aw.com/dsp/)

*Hands On Save Our Streams: The Save Our Streams Teacher's Manual For Grades One Through Twelve*, published by Izaak Walton League of America, 1995. Phone: 1-800-BUG-IWLA

*Kid's Guide to Service Projects* by Barbara A. Lewis, Free Spirit Publishing, Minneapolis, MN. Phone: 1-800-735-7323 E-mail: [help4kids@freespirit.com](mailto:help4kids@freespirit.com)

*Kids' Guide to Social Action* by Barbara A. Lewis, Free Spirit Publishing, Minneapolis, MN. Phone: 1-800-735-7323 E-mail: [help4kids@freespirit.com](mailto:help4kids@freespirit.com)

*\*Plastic Eliminators: Protecting California Shoreline*, CASEC (CA Aquatic Science Education Consortium), University of California, Davis, CA. Phone: 530-752-9914 Web site: [www.rain.org/casec](http://www.rain.org/casec)

*Pond and Stream Safari: A Guide To The Ecology Of Aquatic Invertebrates*, by Karen Edelstein and Tamara Sayre. Published by Cornell Cooperative Extension. Web site: [www.cce.cornell.edu/publications](http://www.cce.cornell.edu/publications)

*\*Project del Rio Lessons Plans for a 16-Day Water Quality Monitoring Project*, published by Project del Rio and GREEN. Web site: [www.econet.apc.org/green/delrio](http://www.econet.apc.org/green/delrio)

*Project WET Curriculum and Activity Guide*. Web site: [www.projectwet.org](http://www.projectwet.org)

*Project WET Taking Action: An Educator's Guide to Involving Students in Environmental Action Projects*. Web site: [www.projectwet.org](http://www.projectwet.org)

*\*Project WILD K-12 Activity Guide and Project WILD Aquatic Education Activity Guide*. Phone: 301-527-8900 Web site: [www.projectwild.org](http://www.projectwild.org)

*Rivers Project Curriculum: Earth Science* from Southern Illinois University, published by Dale Seymour Publications, Menlo Park, CA. Phone: 1-800-872-1100 Web site: [www.aw.com/dsp/](http://www.aw.com/dsp/)

*Rivers Project Curriculum: Geography* from Southern Illinois University, published by Dale Seymour Publications, Menlo Park, CA. Phone: 1-800-872-1100 Web site: [www.aw.com/dsp/](http://www.aw.com/dsp/)

*Rivers Project Curriculum: Language Arts* from Southern Illinois University, published by Dale Seymour Publications, Menlo Park, CA. Phone: 1-800-872-1100 Web site: [www.aw.com/dsp/](http://www.aw.com/dsp/)



*Volunteer Stream Monitoring: A Methods Manual*--EPA publication number 840-F-97-001. Order from U.S. Environmental Protection Agency. Web site: [www.epa.gov](http://www.epa.gov)

*Water Conservation Student Edition* by E2: Environment and Education published by Dale Seymour Publications, Menlo Park, CA. Phone: 1-800-872-1100 Web site: [www.aw.com/dsp/](http://www.aw.com/dsp/)

*Water Conservation Teacher Resource Guide* by E2: Environment and Education published by Dale Seymour Publications, Menlo Park, CA. Phone: 1-800-872-1100 Web site: [www.aw.com/dsp/](http://www.aw.com/dsp/)

*Water Inspectors*, CASEC (CA Aquatic Science Education Consortium), University of California, Davis, CA. Phone: 530-752-9914 Web site: [www.rain.org/casec](http://www.rain.org/casec)

*Water Studies for Younger Folks*, published by GREEN. Web site: [www.econet.apc.org/green](http://www.econet.apc.org/green)

*Water Wise: Lessons in Water Resources*, published by Cornell Cooperative Extension, 1989. Web site: [www.cce.cornell.edu/publications/soil-water.cfm](http://www.cce.cornell.edu/publications/soil-water.cfm)

*Wetlands Protectors*, CASEC (CA Aquatic Science Education Consortium) University of California, Davis, CA. Phone: 530-752-9914 Web site: [www.rain.org/casec](http://www.rain.org/casec)

## **B. Manuals**

*Benthic Macroinvertebrate Monitoring Manual* from Riverwatch Network, published by Kendall/Hunt Publishing Company, Dubuque, IA. Phone: 1-800-228-0810

*Field Manual for Water Quality Monitoring* (11<sup>th</sup> ed.), Mitchell and Stapp, published by Kendall/Hunt Publishing Co., Dubuque, IA. Phone: 1-800-228-0810

*Leaf Pack Experiments Stream Ecology Kit User's Guide* from LaMotte Co., Chestertown, MD. Phone: 410-778-3100 Web site: [www.lamotte.com](http://www.lamotte.com)

*Testing the Waters: Chemical and Physical Vital Signs of a River* from Riverwatch Network, published by Kendall/Hunt Publishing Company, Dubuque, IA Phone: 1-800-228-0810

*Volunteer Stream Monitoring: A Methods Manual*, EPA publication no. 841-B-97-003. Web site: [www.epa.gov](http://www.epa.gov)

### **C. Leader / Teacher Resources**

*Educating Young People About Water: A Guide to Goals and Resources*, see Appendix D, page 1.

*Educating Young People About Water: A Guide to Program Planning and Evaluation*, see Appendix D, page 1.

*Educating Young People About Water: A Guide to Unique Program Strategies*, see Appendix D, page 1.

*Environmental Education for Empowerment*, Stapp, Wals and Stankorb, published by Kendall/Hunt Publishing Company, Dubuque, IA. Phone: 1-800-228-0810

*GREEN Facilitators Handbook*, published by GREEN. Web site: [www.earthforce.org/green/](http://www.earthforce.org/green/)

*Investigating and Evaluating Environmental Issues and Actions: Skill Development Program, A Curriculum Development Project Designed to Teach Students How to Investigate and Evaluate Science-Related Social Issues (Teacher Edition)*. Harold R. Hungerford, Ralph A. Litherland, R. Ben Peyton, John M. Ramsey and Trudi L. Volk. Stipes Publishing, Champaign, IL. Phone: 217-356-8391 Web site: [www.stipes.com](http://www.stipes.com)

*Investigating Streams and Rivers*, Stapp, Cromwell, Schmidt and Alm, published by Kendall/Hunt Publishing Co., Dubuque IA. Phone: 1-800-228-0810

*Sourcebook for Watershed Education*, Cole-Misch, Price and Schmidt, published by Kendall/Hunt Publishing Co., Dubuque, IA. Phone: 1-800-228-0810

*Top 10 Watershed Lessons Learned*, EPA publication no. 840-F-97-001. Web site: [www.epa.gov](http://www.epa.gov)

*Watershed: A Successful Voyage into Integrative Learning* by Springer and Silcox, published by the National Middle School Association. Phone: 1-800-528-6672 Web site: [www.nmsa.org](http://www.nmsa.org)

### **D. Materiales disponibles en español / Resources available in Spanish**

*Actividades de la Guía Proyecto WILD del Jardín de Niños Hasta la Preparatoria y la ILD Educación Acuática/Activities from the Project WILD K-12 Activity Guide and the Project WILD Aquatic Education Activity Guide*, Project Wild, 1998. Phone: 301-527-8900 Web site: [www.projectwild.org](http://www.projectwild.org)

*Administración de Áreas Ribereña –Proceso para evaluar la condición de funcionamiento adecuado*, 1995. US Bureau of Land Management, Referencia técnica RT 1737-9 1993.

*Administración de Áreas Ribereñas–Proceso para evaluar la condición de funcionamiento adecuado de las áreas lénticas ribereñas y pantanosas*, 1994. US Bureau of Land Management, Referencia técnica RT1737-11 1994.

*Agua en tus manos*. Comic book published by the Soil and Water Conservation Society, Iowa. Phone: 1-800-THE-SOIL

*Agua y Suelo: Protegen la Vida del Planeta–Proyecto Educativo para el Enriquecimiento de las Ciencias*, USDA y El Servicio de Extensión Agrícola, Colegio de Ciencia Agrícolas, Recinto de Mayagüez, Universidad de Puerto Rico.

*Apreciación y Clasificación de Suelos*, 1995, USDA y El Servicio de Extensión Agrícola, Colegio de Ciencia Agrícolas, Recinto de Mayagüez, Universidad de Puerto Rico.

*Arrecifes de Coral–Una Colección de Actividades en Español para Estudiantes de Escuela Intermedia*, EPA #160-B-97-900b/ *Coral Reefs–An English Compilation of Activities for Middle School Students*, 1997, EPA #160-B-97-900a Phone: 1-800-490-9198 Web Site:[www.epa.gov/ncepihm/index/html](http://www.epa.gov/ncepihm/index/html)

*Bienvenido a las tierras pantanosas*, US EPA y Terrene Institute, 1998. Phone: 703-548-5473 Web site: [www.terrene.org](http://www.terrene.org)

*Conozcamos el mar–los habitantes marinos*, Sea Grant Program y Universidad de Puerto Rico, publicación especial num. 8b, 1984. Phone: 787-832-4040

*Ecosistema Bajo Rio Grande/Lower Rio Grande Ecosystem*, brochure. Project Leader: Lower Rio Grande Valley National Wildlife Refuge Complex, Rte. 2, Box 202A, Alamo, Texas 78516 Phone: 210-787-3079

*El Agua y Nosotros*, USDA y El Servicio de Extensión Agrícola, Colegio de Ciencia Agrícolas, Recinto de Mayagüez, Universidad de Puerto Rico, 1997.

*Eliminadores del Plástico–Protegiendo las playas de California*. Actividades de aprendizaje para grupos de jóvenes de 10 a 15 años, Consorcio Educativo de Ciencias Acuáticas de California (CASEC). Phone: 805-893-2739 Web site: [www.rain.org/casec](http://www.rain.org/casec)

*Enseñando a Conservar el Suelo y el Agua Una guía para el campo y el salón de clases*, USDA, Servicio de Conservación de Recursos Naturales, Programa Auxiliar, Número 341. Producido en el Centro de Publicaciones de la Universidad Interamericana de Puerto Rico, 1999. Phone: 787-892-5407

*Guardianes Del Agua Fresca—Defendiendo nuestra precios reserva.* Actividades de aprendizaje para grupos de jóvenes de 10 a 15 años, Consorcio Educativo de Ciencias Acuáticas de California (CASEC). Phone: 805-893-2739 Web site: [www.rain.org/casec](http://www.rain.org/casec)

*Guía de Recursos de Educación Ambiental en la Frontera, Sur de Arizona, Sur de California, Norte de Baja California, Norte de Sonora/Border Environmental Education Resource Guide, Southern Arizona, Southern California, Northern Baja California, Northern Sonora,* 2000. Environmental Education Exchange, 738 North 5<sup>th</sup> Ave., Suite 100, Tucson, AZ 85705 Phone: 520-670-1442 Web site: [www.eeexchange.org](http://www.eeexchange.org)

*Inspectores del Agua—Examinando el H2O.* Actividades de aprendizaje para grupos de jóvenes de 10 a 15 años, Consorcio Educativo de Ciencias Acuáticas de California (CASEC). Phone: 805-893-2739 Web site: [www.rain.org/casec](http://www.rain.org/casec)

*Los Humedales de Texas: Una Guía Educativo para su Conservación,* 1993. Adopte un Humedal, Centro de Studios Costeros, Universidad Texas A & M—Corpus Christi

*Naturaleza Humana/Human Nature.* Newsletter published by the Environmental Education and Communication (GreenCOM) Project. Web site: [www.usaid.gov/environment/greencom](http://www.usaid.gov/environment/greencom)

*Protectores de Los Humedales—Protegiendo nuestras tierras húmedas y silvestres.* Actividades de aprendizaje para grupos de jóvenes de 10 a 15 años, Consorcio as de California (CASEC). Phone: 805-893-2739 Web site: [www.rain.org/casec](http://www.rain.org/casec)

*Vigilantes de Los Riachuelos—Explorando el mundo de riachuelos y arroyos.* Actividades de aprendizaje para grupos de jóvenes de 10 a 15 años, Consorcio icas de California (CASEC). Phone: 805-893-2739 Web site: [www.rain.org/casec](http://www.rain.org/casec)

### **E. Materiales en Internet disponibles en español que presentan información sobre educación ambiental / Web site resources that feature environmental education information, programs and activities in Spanish**

North American Association for Environmental Education (NAAEE)

Web site: <http://eelink.net/educacionambientalenespanol.html>

Enlaces a recursos de la educación ambiental que son útiles para los educadores que trabajan con los estudiantes de habla hispana. Los recursos en esta página se describen en español, o se informa como se obtienen estos materiales en español. / Activity guides, audio visual materials, children's books, curricular materials and supplemental materials in Spanish, provided by the Wisconsin Center for Environmental Education.

Spanish-Language Publications for Volunteer Monitors from *The Volunteer Monitor*, Vol. 7, No. 2, Fall, 1995. Web site: [www.epa.gov/owowwtr1/monitoring/volunteer/fall95/urbwat29/htm](http://www.epa.gov/owowwtr1/monitoring/volunteer/fall95/urbwat29/htm)

**F. Programa de educación ambiental en español para computadoras /  
Environmental Education Computer Software in Spanish**

*El Milagro de un Río en el Desierto / The Miracle of a Desert River*, CD-ROM, US Bureau of Land Management. Phone: 208-373-4048

Es un documental interactivo en español e inglés que narra la extraordinaria historia de comunidades y entidades científicas en los estados de Sonora, México y Arizona, en los Estados Unidos. Estos estados que cooperan entre sí promover la conservación del río San Pedro. / An interactive multimedia documentary in Spanish and English. It is the remarkable story of scientific and community cooperation by two states, Sonora and Arizona, and two nations, Mexico and the United States, to conserve the watershed of the San Pedro River.



## APPENDIX E

### Sample Institute Agenda and Session Descriptions

**AGUA PURA  
LEADERSHIP INSTITUTE  
Santa Barbara City College**

Life Sciences and Geology Building  
Saturday, June 26 - Monday, June 28, 1999

#### Day 1

**Saturday, June 26 - 9 AM- 4 PM**

**Examining County Watershed Issues  
Room LSG 201**

- |             |  |
|-------------|--|
| 9-9:30      | Introduction of participants and Agua Pura background, goals, partners - Michael Marzolla, UCCE 4-H Youth Development Program  |
| 9:30-10:30  | Roundtable: Watershed issues from a Public Health, County Water and a watershed activist perspective—Dan Reid, County Health; Rob Almy, County Water Agency, and a community activist  |
| 10:30-10:45 | Break  |
| 10:45-noon  | Watershed education introduction—Tim Donahue, GREEN Certified Trainer, Agua Pura Project   |
|             | <ul style="list-style-type: none"><li>&lt; What is a watershed?</li><li>&lt; Why do a watershed program?</li><li>&lt; How to map a watershed</li></ul>   |
| Noon-1      | Travel to stream site at Rocky Nook Park, eat box lunch at site  |
| 1-5         | Model watershed program at Rocky Nook Park : <ul style="list-style-type: none"><li>&lt; Techniques and materials</li><li>&lt; Creek walk</li><li>&lt; Sampling</li><li>&lt; Data analysis</li><li>&lt; Reflection exercise</li></ul> |

**Day 2**

**Sunday, June 27, 10 AM - 7 PM**

**Watershed, Youth and the Latino Community**  
**Room LSG 216**

- 10-noon On-Line Internet Resources Workshop—Jeff Foote, Teacher, Kermit McKenzie Junior High School, Guadalupe, CA
- Noon-1 Lunch and resource tables
- 1-2 Re-enforcing Youth Resiliency: Engaging Youth and Community—Richard Enfield, 4-H Youth Development Advisor, San Luis Obispo County
- 2-3 Involving the Latino Community - Panel discussion—Debra Arviso, the Chicano/Latino High School Leadership Program; Gracie Huerta, Tre Condados Girl Scout Council; and Alejandro Vasquez, Los Compadres
- 3-3:15 Break
- 3:15-4:15 A Sense of Place/River of Words: Creating Artistic Connections—Sojourner Kincade-Rolle, Poet, A Sense of Place and Larry Iwerks, Artist, The Oak Group
- 4:15-5:15 Introduction to Adopt-A-Watershed (AAW)—Nancy Jones, AAW
- 5:30 - 7:00 Barbecue on the SBCC Cafeteria Terrace

**Day 3**

**Monday, June 28, 9 AM - 4PM**

**Linking Educational Opportunities to Youth Needs**  
**Room LSG 216**

- 9-9:30 Summary of Leadership Institute, Days 1 and 2
- Review goals of Agua Pura
  - Review community and youth needs
  - Review curricula and other resources
- 9:30-11:30 AAW - integrating watershed education into school curriculum—Nancy Jones
- Noon -1 Lunch and resource tables
- 1-4 Community Education Planning Activity  
Group Feedback - Agua Pura: Involving the Latino youth in watershed education and action, focus groups—Elaine Andrews, UWEX Environmental Resources Center





## **DAILY SESSION DESCRIPTIONS**

Agua Pura Pilot Leadership Institute, June, 1999

### **DAY 1 - Understanding Watersheds and Local Watershed Issues**

#### **Session 1**

#### **Local Watershed Issues Roundtable**

***Speakers from local organizations discuss the roles their organizations have relating to local watershed issues.***

#### ***Speakers***

*Dan Reid* of the Santa Barbara County Environmental Health Department gave an overview of *Project Clean Water*, the County-wide effort to improve water quality in local creeks and the ocean. *Project Clean Water* will help the County comply with the permit requirements of the Clean Water Act prior to June 1, 2002, while simultaneously addressing the more immediate issue of continuous beach closures due to creek and ocean water pollution. Dan also gave background information on water quality issues affecting Santa Barbara County, described the studies that have been done on the watersheds to date, and discussed the future plans of Project Clean Water.

*Mary Sanvictores*, California State Parks—Mary discussed her volunteer water quality monitoring program which is documenting the baseline condition of streams and lagoons in Santa Barbara County. They are specifically monitoring 4 local State Parks and collecting data that will help detect habitat degradation and monitor habitat quality in State Park streams and lagoons.

*Joe Carillo*, of Santa Barbara SEA, discussed the need for action using Latino youth.

#### **Session 2**

#### **Introduction to Watershed Education**

***This session was designed to answer three main questions:***

- < *What is a watershed?*
- < *Why do a watershed program?*
- < *How do you map a watershed?*

Activities to address these questions can be found in many resources. The following are examples of resources that can be used to answer these questions. Resource ordering information can be found in **Appendix D**.

- < To describe what a watershed is, use the simple exercise, *Watershed in Your Hands*, from the *From Ridges to Rivers* (Appendix D – page 3).
- < The book *Sourcebook for Watershed Education* includes a summary of reasons for doing a watershed program (Appendix D – page 6).
- < The activity, *Map Your Watershed* from *Give Water A Hand* shows leaders how to map a watershed on a topographic map ((Appendix D – page 1). Local maps should be provided.

### **Session 3 Exploring Watersheds**

***This session is a hands-on continuation of the previous session. It allows the many participants that are unfamiliar with creek ecology or assessment tools such as the GREEN low-cost water monitoring kit, to get hands-on experience.***

This session should take place at a pre-determined field trip site(s). At this site you can conduct the following activities:

1. A discussion about uses of water monitoring data and how professionals can use collected data. <sup>1</sup>
2. The pros and cons of data collected by volunteers.
3. A simple creek walk:  
Use a data sheet such as *The Creekwalk Notebook* in *Creek Watchers* (CASEC) to help participants characterize the stream and its watershed. Participants should visually assess the water, collecting data such as: Is the water clear or turbid? Are the banks eroded? What type of vegetation is present, native or exotic? Is there a lot of trash present? Are there drainage pipes present? What other signs of human impact are there? What are the positive and negative conditions and activities occurring at this site?

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<sup>1</sup>There are a variety of resources available describing the water quality monitoring. One especially useful publication is the free EPA manual, *Volunteer Stream Monitoring: A Methods Manual* EPA 841-B-97-003.

4. Follow up discussion about the creek walk data.

After participants complete their creek walk, gather the group together and have them discuss their findings. Ask for their ideas on the health of the creek. Does it need additional monitoring? Should anything be brought to the attention of water quality or public health agencies? You may even want to discuss how you would manage a youth group.

5. An opportunity to use water monitoring kits and conduct a macro-invertebrate analysis.

Macro-invertebrate analysis is a valuable tool for assessing stream quality because some species are more sensitive to pollution than others. Prior to the Institute, macro-invertebrate collection bags, such as those available through GREEN, should be set out in the stream. Macro-invertebrates caught in these bags can then be sorted and identified by participants using resources like the GREEN leaf pack sorting sheets and flash cards. Then, using the easy formula provided with the materials, participants can determine the quality of the stream.

You will also want to conduct some water quality tests using the GREEN low-cost water monitoring kits or similar kits. These kits come complete with an instruction guide and materials to test 10 water samples: pH, dissolved oxygen, biochemical oxygen demand, nitrate, phosphate, turbidity, temperature change and 3 coliform bacteria samples. Using this data, participants can determine whether the stream is within allowable limits for each of the measurements taken. Combining these results with the macro-invertebrate survey results will help give participants a good picture of the streams water quality and give them the confidence to use these methods with youth. (See Appendix D – page 1 for ordering information.)

**DAILY SESSION DESCRIPTIONS continued**

Agua Pura Pilot Leadership Institute, June, 1999

**DAY 2 - Understanding Youth in the Community Sample Sessions**

**Session 1**

**Online Internet Resources Workshop**

***Provide a session that introduces participants to the many water resources available via the Internet. Include local resources.***

**Session 2**

**Re-enforcing Youth Resiliency: Engaging Youth and Community**

***Provide a speaker who can present research about adolescent behavior and the developmental assets of youth.***

Research data is available from the Search Institute of Minnesota ([www.search-institute.org](http://www.search-institute.org)). Its research shows that there are 40 developmental assets that are powerful influences on adolescent behavior. The more of these assets adolescents have, the more likely they are to exhibit more positive attitudes and behaviors and to reduce high-risk behaviors. There are eight categories of assets divided into either External or Internal Assets. The eight categories are: Support, Empowerment, Boundaries and Expectations, Constructive Use of Time, Commitment to Learning, Positive Values, Social Competencies and Positive Identity.

**Session 3**

**Involving the Latino Community - Panel Discussion**

***Select local community members to provide a panel discussion about ideas for involving the Latino Community in water education programs.***

Panel members should have expertise in outreach to the Latino community, but do not need to have watershed or natural resource expertise. This session will help the participants understand their Latino communities needs and how to better access the Latino youth through local organizations. Leaders from these organizations can open doors to the Latino youth community for water education.

#### **Session 4**

#### **Creating Artistic Connections: A Sense of Place/River of Words**

***Offer leaders aesthetic or art-based opportunities to involve Latino youth in local water issues.***

In the Santa Barbara, CA Institute, the poet Sojourner Kincade Rolle, lead the first part of the session. She described how she has used poetry in the school system to enhance student awareness of the environment. She also led participants in a poetry writing session.

Larry Iwerks, from a local artists' organization called Oak Group, discussed the group's work in using artistic impressions to get attention focused on local environmental issues. He finished his presentation with a slide show.

In Santa Barbara, relating art to local issues was highly valued by participants and was identified as an important strategy for connecting community members (youth and leaders) to their values about their community.



## **DAILY SESSION DESCRIPTIONS continued**

Agua Pura Pilot Leadership Institute, June, 1999

### **Day 3 - Linking Community and Youth Needs to Education Opportunities**

#### **Session 1**

#### **Integrating Watershed Education into School Curriculum**

***This session will help participants understand how to integrate watershed education into a school program.***

Start this session by familiarizing participants with state and local education standards and requirements. Then ask them to identify a specific local environment or water quality problem. Working in teams, participants break the problem down into simpler components then search education standards to look for potential links.

After this practice session, Leadership Institute graduates can work directly with local teachers to refine education goals and choose curriculum activities from the many resources provided at the Institute.<sup>1</sup>

#### **Session 2**

#### **Community Education Planning Activity**

***This session takes participants through the steps they should follow to start a youth water program.***

The steps are:

1. Decide on a Water Education Goal (make it as specific as possible).
2. Describe the Community - Place, People, Water Issues.
3. Describe skills that community people need to address this water issue.
4. Describe your target audience - special needs/interests, skills needed to take action.

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<sup>1</sup>Adopt-A-Watershed offers a "K-12 science curriculum, which uses a local watershed as a living laboratory where students engage in hands-on activities. Each unit of the curriculum addresses grade level-appropriate science concepts and allows students to apply these concepts to field studies, restoration and community action projects. The curriculum does not reinvent materials currently in use, but instead complements units with other quality curricula and publications."

5. Identify community organizations that work with this target audience or address this water issue.
6. Redefine your Water Education Goal, incorporating this new information.

Divide participants into small groups, and have them answer each question. You may want to have a flip chart available for each group. When each group has finished, have a spokesperson from each group discuss the group's goal and receive input from other participants.

### **Session 3**

#### **Group Feedback - Agua Pura: Involving the Latino Youth in Watershed Education and Action**

***This session provides participants with an opportunity to integrate key information learned from the training and develop their own plan for local leadership.***

Discussion focuses on three topics:

1. Latino Youth Involvement
2. Watershed Education
3. Providing Leadership for and with Latino Youth

For each topic the following questions can be asked:

#### *Latino Youth Development*

- How are Latino youth involved in watershed education?
- What can we learn from Latino youth involvement?
- What should be done to increase Latino youth involvement in watershed learning and action?

#### *Watershed Education*

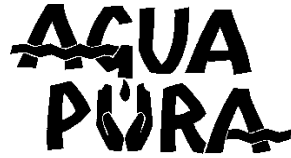
- How could watershed education curricula be modified or designed to meet Latino youth group needs?
- How could other education activities/events be adapted to include watershed education relevant to Latino youth needs?

#### *Providing Leadership for and with Latino Youth*

- What skills are needed to facilitate Latino youth involvement with watershed learning and action?
- How can we work to meet those needs?

## APPENDIX F

### Sample Announcement, Invitation And Application Forms



LEADERSHIP INSTITUTE, JUNE 26-28  
Santa Barbara City College

The project features a Leadership Institute for formal (teachers) and nonformal (youth agency staff and volunteers) educators that will use resources from Give Water A Hand, Global Rivers Environmental Education Network (GREEN), Adopt-A-Watershed, and California Aquatic Science Education Consortium (CASEC) as the foundation for improving understanding of how to involve local youth in watershed protection. The Leadership Institute will focus on strategies to involve the Latino community and how resources need to be adapted to its needs and interests.



California 4-H  
Youth Development Program



Santa Barbara  
City College



Give Water A Hand

The "AGUA PURA" PROJECT is a partnership of the University of Wisconsin Cooperative Extension's Give Water A Hand program, Santa Barbara County UC Cooperative Extension 4-H Youth Development Program and Santa Barbara City College to increase Latino youth leadership in local watershed issues.

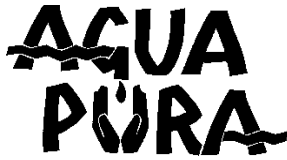
Agua Pura is funded by a grant from the USDA Cooperative Extension Service.

Project collaborators include:

Creek Watchers  
Adopt-A-Watershed  
Project Clean Water  
Santa Barbara County Water Resources  
CASEC—California Aquatic Science Education Consortium

Find details about the Institute and registration information on the following page.





You are invited to learn how your school or youth group can help solve Santa Barbara County's water pollution problems and have fun doing it.

Attend the AGUA PURA Youth Leader Institute  
Saturday through Monday, June 26-28  
Santa Barbara City College

Workshop topics include:

- Water quality issues in our County
- How to start a youth watershed education program
- How to use water monitoring kits
- How to access further information on the Internet
- How to use watershed education materials effectively with youth groups
- And more...

Each participant will receive:

- A water monitoring kit
- A CD ROM with local watershed maps
- Watershed curricula guides
- Great ideas for your watershed project

Cost:

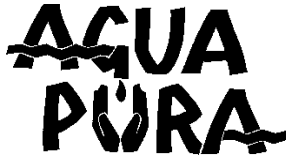
- \$25 registration fee includes (scholarships are available):
- Meal and lodging
- \$125 honorarium if you attend complete workshop

For more information contact: Michael Marzolla or Sonia Torres at (805) 568-3330 or  
E-mail: [ammarzolla@ucdavis.edu](mailto:ammarzolla@ucdavis.edu)

Please complete and return the attached registration form by Friday, June 18.

Registration is limited to 30 participants: 15 teachers/15 community people.

If you require special assistance  
please contact the 4-H Office in advance at (805) 568-3330.



Leadership Institute Application  
June 26-28, 1999

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Home Phone \_\_\_\_\_  
Work Phone \_\_\_\_\_  
Fax number \_\_\_\_\_  
E-mail Address \_\_\_\_\_  
Youth group/school affiliation \_\_\_\_\_

Special dietary needs:

Please check the box if you would like vegetarian meals.

Other special needs? Please contact the 4-H office at least forty-eight hours in advance at 568-3330.

What do you feel should be included in a watershed education program to make it relevant to Latino youth? (Optional)

Registration fee of \$25 includes (scholarships are available):

- \$125 honorarium for participation in the 3-day Institute.
- Watershed education materials
- A water monitoring kit
- Lunches each day and dinner on Sunday

Return form with \$25 check made out to *UC Regents* to:

Michael Marzolla  
4-H Youth Development Advisor  
University of California Cooperative Extension  
105 East Anapamu, Ste. 5  
Santa Barbara, CA 93101-6053  
Fax: 805-568-3091

Deadline: June 18, 1999

## APPENDIX G Sample Evaluation Forms

### Agua Pura Workshop Evaluation

**Workshop Goal:** *To prepare adults to involve Latino youth in studying and helping to address local watershed problems in order to further local public involvement in community management and decision making.*

1) Why did you choose to attend this workshop?

2) Please circle the number that indicates your rating of each of today's sessions with 5 being excellent and 1 being poor. Circle N/A if not applicable.

	<u>Not Useful</u>		<u>Somewhat Useful</u>		<u>Very Useful</u>	
Watershed issues roundtable	1	2	3	4	5	N/A
Watershed education introduction	1	2	3	4	5	N/A
Model watershed program	1	2	3	4	5	N/A

3) Do you plan to implement a watershed education program with Latino youth in the future? Yes No

4) Which topics or new ideas presented today do you think are important to include in an Institute for Latino youth leaders?

Name (optional)

Group/School affiliation:

## Agua Pura Workshop Evaluation

**Workshop Goal: *To prepare adults to involve Latino youth in studying and helping to address local watershed problems in order to further local public involvement in community management and decision making.***

1) Why did you choose to attend this workshop?

2) Please circle the number that indicates how useful these sessions were in meeting the workshop's goal?

	<u>Not Useful</u>		<u>Somewhat Useful</u>		<u>Very Useful</u>	
Computer workshop	1	2	3	4	5	N/A
Youth Resiliency	1	2	3	4	5	N/A
Panel discussion	1	2	3	4	5	N/A
Creating Artistic Connections	1	2	3	4	5	N/A
Adopt-A-Watershed	1	2	3	4	5	N/A

3) Do you plan to implement a watershed education program with Latino youth in the future? Yes No

4) Which topics or new ideas presented today do you think are important to include in an Institute for Latino youth leaders?

Name (optional)

Group/School affiliation:

## Agua Pura Workshop Evaluation

**Workshop Goal: *To prepare adults to involve Latino youth in studying and helping to address local watershed problems in order to further local public involvement in community management and decision making.***

1) Why did you choose to attend this workshop?

2) Please circle the number that indicates how useful these sessions were in meeting the workshop's goal?

	<u>Not Useful</u>		<u>Somewhat Useful</u>		<u>Very Useful</u>	
Integrating watershed education into the classroom	1	2	3	4	5	N/A
Roundtable discussion	1	2	3	4	5	N/A

3) Do you plan to implement a watershed education program with Latino youth in the future? Yes No

4) Which topics or new ideas presented today do you think are important to include in an Institute for Latino youth leaders?

Name (optional)

Group/School affiliation: