



February 2004  
**Who Are Our Volunteers?  
How Do We Support Their Efforts?**



**University of Rhode Island**

**University of Wisconsin**

Inquiry Background

As part of the Volunteer Water Quality Monitoring National Facilitation Project, we sent an inquiry in February 2002 to 26 coordinators of 27 existing Cooperative Extension (CE) sponsored/co-sponsored volunteer water quality monitoring programs. These programs were identified through an inquiry in the fall of 2001. The program-level inquiry was designed to help us learn the ins and outs of existing volunteer water quality monitoring programs so that we could compile and share that information with existing and newly formed programs through our website ([www.usawaterquality.org/volunteer](http://www.usawaterquality.org/volunteer)), list server, the *Guide for Growing CSREES Volunteer Monitoring Programs*, trainings, and general networking. There were 6 main sections of the inquiry that correspond with sections of the guidance documents we are preparing. The sections are: types of activities available, effective training techniques, quality assurance issues, volunteer management and support tools, outreach tools, and funding issues. This summary highlights our Extension volunteer monitoring demographics, and discusses on-going volunteer management and the support tools used by these programs. We hope that this information will be helpful to others in improving their techniques and successes in this arena.

Who Are Our Volunteer Water Quality Monitors?

Program Coordinators were asked to estimate the age composition of volunteers in their program in four age categories: senior citizens, working-age people, traditional college-age students and youth. Within each age category the percent composition of volunteers ranged considerably. For instance, some programs had 0% working-age or youth volunteers while others had 100% working-age or youth participation. For senior citizens, the range was nearly as large, with programs reporting between 0 and 71% participation by seniors. College-age individuals represented between 0 and 20% of volunteers in the responding programs. The average age composition of volunteers for all programs is presented in Figure 1.

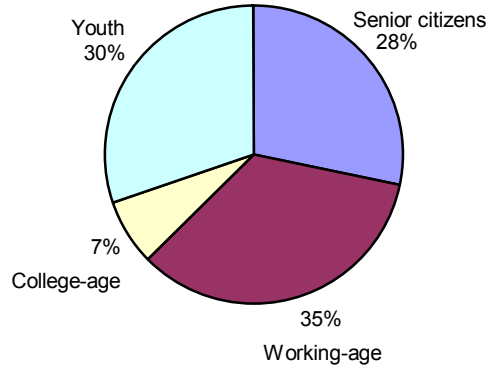


Figure 1: Average age composition of volunteers among the 21 responding Extension volunteer water quality monitoring programs.

### Why volunteers participate

In order to best support your volunteers, you need to understand why they choose to participate. All 21 responding coordinators felt that a key reason volunteers participate was to protect or improve their favorite waterbody (Figure 2). Other highly rated major reasons included to act on a general environmental concern, to participate in a family activity, to learn more about water quality, and to address a perceived water quality problem. Less often cited as major reasons why volunteers participate in monitoring were for them to be part of an outdoor activity or to fulfill a community service requirement/build a resume.

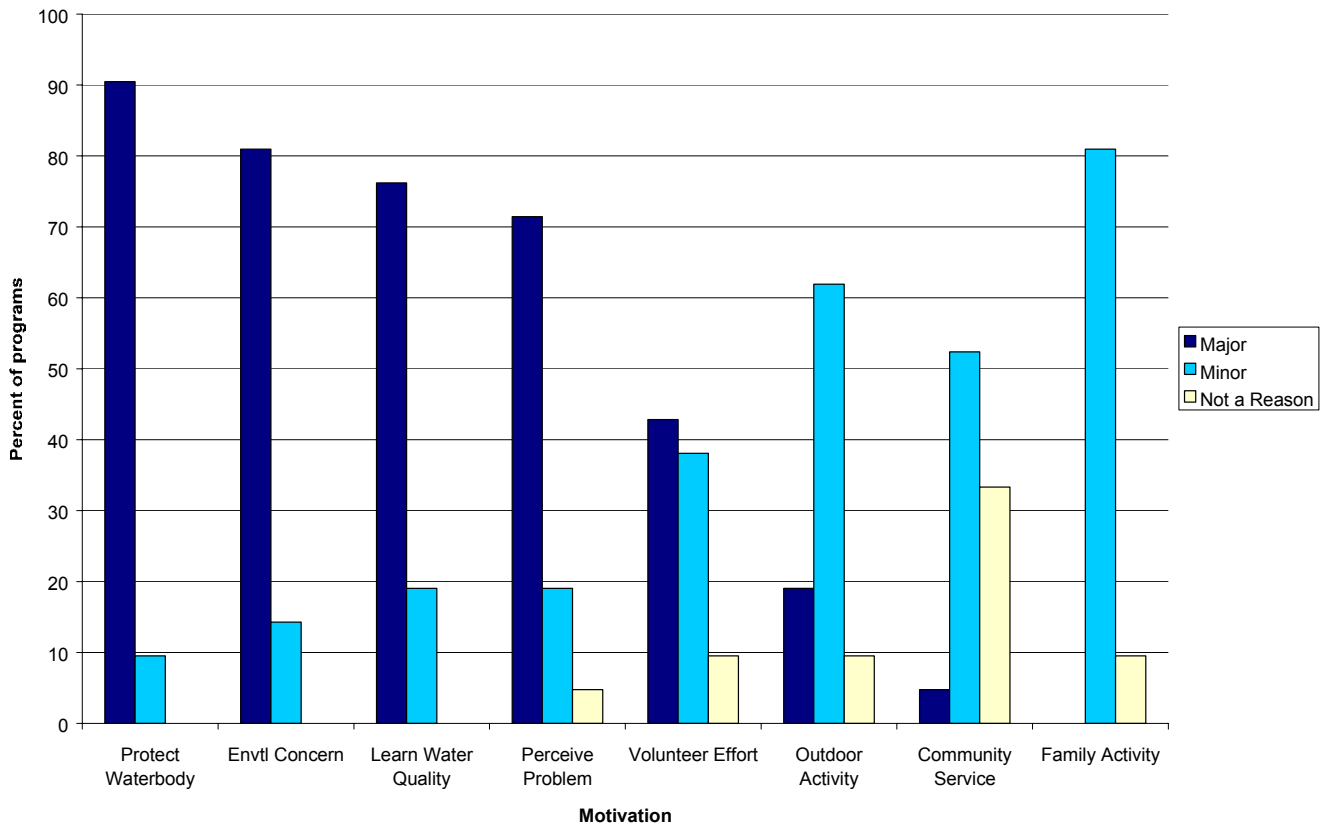


Figure 2: Extension volunteers choose to participate in monitoring efforts for varied reasons.

### Target audiences

Volunteer support techniques may differ between programs with different target audiences. We asked program coordinators to rank the extent to which their program targets specific audiences during recruitment. Results are summarized in Figure 3.

Conservation groups were targeted most often, with the general public next. Civic groups and youth were targeted by a similar number of programs as one another, though to a lesser extent than conservation groups and the public. Two programs targeted traditionally underserved audiences and eight targeted these groups to a minor extent. These groups included Hispanic and African-American communities, tribal groups (including Narragansett Indians and other unidentified groups), and unidentified inner city minorities.

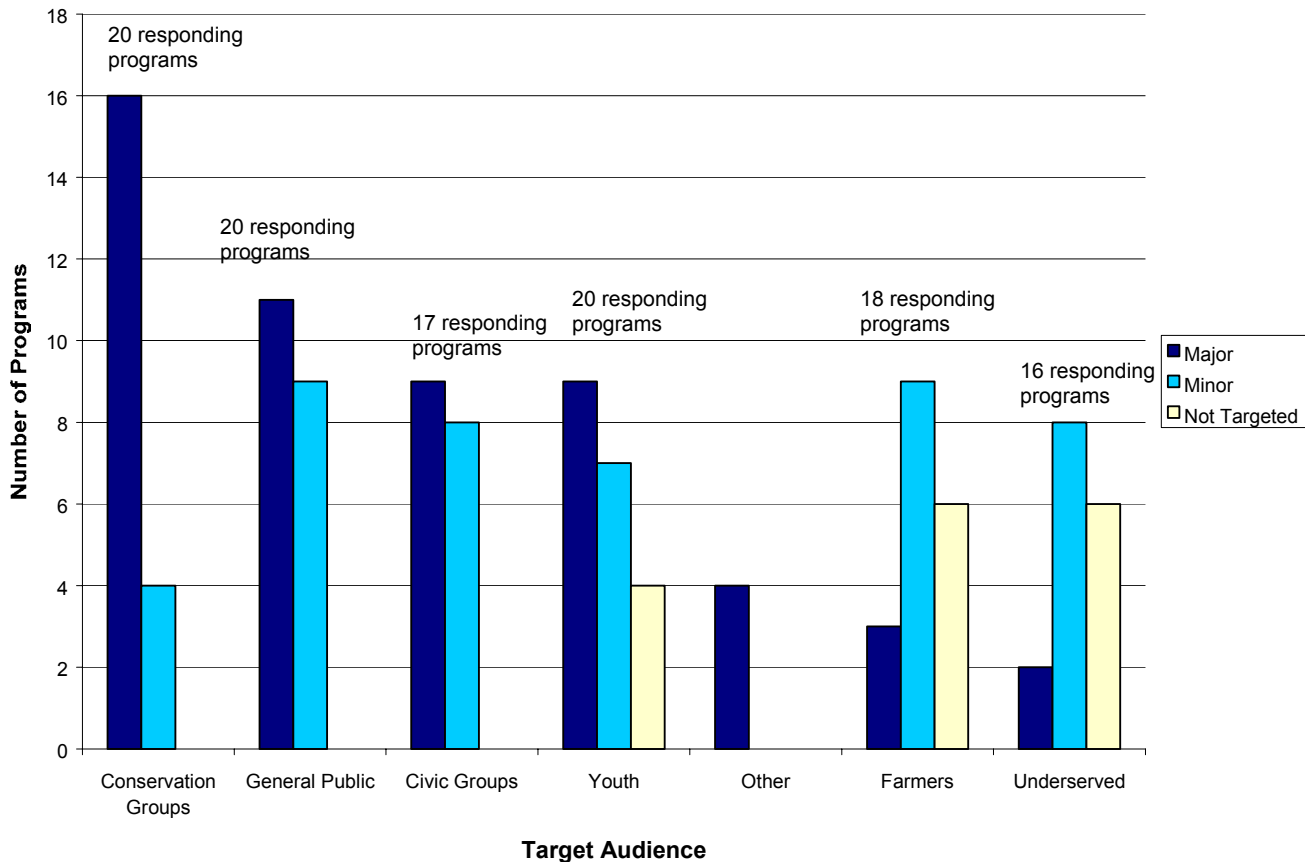


Figure 3. Volunteer water quality monitoring programs target their efforts to different audiences. For each audience type, we included the number of programs that responded if these specific groups were a major targeted audience, a minor targeted audience or not targeted with their various volunteer support techniques.

### Supporting & Encouraging Our Volunteers (after the training is done)

There are a variety of ways that programs offer volunteers support once their training has been completed and they are actively monitoring (Table 1). We provided a list of support techniques (with space for listing other techniques) to program coordinators and asked them to indicate which they used. The primary method of support was to offer staff consultation to individual monitors. Many programs offer an annual meeting, conference, or celebration. One program noted that their annual social event was sponsored in partnership with other organizations, thereby offering the opportunity to invite a guest lecturer for the event.

Both technological and social dimensions were cited with other often-used methods of support. Fifteen programs have active websites, while fourteen programs offer data analysis and reporting and make periodic visits to volunteers' monitoring sites. Eight programs offer

advanced training sessions, awards, and paraphernalia (hats, shirts, mugs, magnets, etc.) to their volunteers.

In addition to newsletters, which more than half of the programs provide to their volunteers, six programs communicate by providing publications to volunteers. Those publications include annual reports, direct mailings, brochures, local program updates, *Docent Doings* and the *Gulf of Maine Times* (Great Bay Watch), and informational publications including the *Reservoir* series, *Stream* series, and *Coastal* series by the Alabama Water Watch Program. Nine programs provide the EPA’s stellar newsletter, *The Volunteer Monitor* to their volunteers. Pertinent conference/meeting/event notices help volunteers connect their efforts to those of the larger environment community. Distribution of brochures and fact sheets on topics such as protecting their drinking water well, maintaining septic systems, West Nile Virus and Lyme Disease keep them aware of individual actions and concerns.

Other techniques for volunteer support include:

- Offering grants to nonprofits, schools and government agencies for water monitoring equipment,
- Working with other associations that also offer support for volunteers (such as the Alabama Water Watch Association that has affiliation with 70 of Alabama Water Watch’s local monitoring groups),
- Working with local program coordinators to enable them to mentor via newsletters, on-site visits, regular meetings, paraphernalia, and social events,
- Offering an opportunity for volunteers to monitor with/for other programs (examples noted include phytoplankton sampling, beach profiling and horseshoe crab monitoring),
- Offering an opportunity for volunteers to help with other educational programs, and
- Working with CE Community Conservation assistance efforts.

Table 1: Methods of support for volunteers listed in order of popularity.

Method of Support	Program
<b>Staff consultation</b>	Alabama Water Watch, North Fork Volunteer Monitoring Project, Hoosier Riverwatch, IOWATER, Maine Shore Stewards, Volunteer Stream Monitoring Partnership, St Louis River- Riverwatch, New Hampshire Lake Lay Monitoring Program, Great Bay Coast Watch, NC Watershed Watch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, Pacific Northwest, Adopt-A-Lake (WI), Water Action Volunteers, Watershed Alliance, WSU Beachwatchers

<b>Annual meeting/Conference</b>	Alabama Water Watch, North Fork Volunteer Monitoring Project, IOWATER, Maine Shore Stewards, Lake Superior Lakewatch, Volunteer Stream Monitoring Partnership, St. Louis River- Riverwatch, New Hampshire Lake Lay Monitoring Program, Great Bay Coast Watch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, Adopt-A-Lake (WI), Water Action Volunteers, Tahoe-Truckee Snapshot, Watershed Alliance, WSU Beachwatchers
<b>Program website</b>	Alabama Water Watch, North Fork Volunteer Monitoring Project, Hoosier Riverwatch, IOWATER, Maine Shore Stewards, Volunteer Stream Monitoring Partnership, St. Louis River- Riverwatch, New Hampshire Lake Lay Monitoring Program, Great Bay Coast Watch, URI Watershed Watch, Adopt-A-Lake (WI), Water Action Volunteers, Tahoe-Truckee Snapshot, Watershed Alliance, WSU Beachwatchers
<b>Data analysis and reporting</b>	Alabama Water Watch, North Fork Volunteer Monitoring Project, IOWATER, Maine Shore Stewards, Lake Superior Lakewatch, Volunteer Stream Monitoring Partnership, St. Louis River- Riverwatch, New Hampshire Lake Lay Monitoring Program, Great Bay Coast Watch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, Adopt-A-Lake (WI), Water Action Volunteers, WSU Beachwatchers
<b>Site visits</b>	Alabama Water Watch, IOWATER, Maine Shore Stewards, Lake Superior Lakewatch, Volunteer Stream Monitoring Partnership, St. Louis River- Riverwatch, New Hampshire Lake Lay Monitoring Program, Great Bay Coast Watch, NC Watershed Watch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, Adopt-A-Lake (WI), Community Fly Fisher, WSU Beachwatchers
<b>Notification of upcoming conferences</b>	Alabama Water Watch, North Fork Volunteer Monitoring Project, Hoosier Riverwatch, Maine Shore Stewards, Volunteer Stream Monitoring Partnership, New Hampshire Lake Lay Monitoring Program, Great Bay Coast Watch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, Adopt-A-Lake (WI), Water Action Volunteers, Community Fly Fisher, WSU Beachwatchers
<b>Program newsletter</b>	Alabama Water Watch, Hoosier Riverwatch, IOWATER, Maine Shore Stewards, Volunteer Stream Monitoring Partnership, Great Bay Coast Watch, NC Watershed Watch, Illinois Basin/Spring Creek Blue Thumb, Adopt-A-Lake (WI), Tahoe-Truckee Snapshot, WSU Beachwatchers
<b>Regular program meetings</b>	Alabama Water Watch, North Fork Volunteer Monitoring Project, IOWATER, Volunteer Stream Monitoring Partnership, St. Louis River- Riverwatch, Great Bay Coast Watch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, Community Fly Fisher, Watershed Alliance, WSU Beachwatchers
<b>Various levels of monitoring available</b>	Alabama Water Watch, North Fork Volunteer Monitoring Project, Hoosier Riverwatch, IOWATER, Maine Shore Stewards, Volunteer Stream Monitoring Partnership, New Hampshire Lake Lay Monitoring Program, Great Bay Coast Watch, Illinois Basin/Spring Creek Blue Thumb, Adopt-A-Lake (WI), WSU Beachwatchers
<b>Certificate of participation</b>	Alabama Water Watch, IOWATER, Maine Shore Stewards, Volunteer Stream Monitoring Partnership, St. Louis River-Riverwatch, New Hampshire Lake Lay Monitoring Program,

	Great Bay Coast Watch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, Adopt-A-Lake (WI), Water Action Volunteers, WSU Beachwatchers
<b>Links to other programs' websites</b>	Alabama Water Watch, Hoosier Riverwatch, IOWATER, Maine Shore Stewards, Volunteer Stream Monitoring Partnership, New Hampshire Lake Lay Monitoring Program, Great Bay Coast Watch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, Adopt-A-Lake (WI), Water Action Volunteers
<b>Coordination with other programs</b>	Alabama Water Watch, IOWATER, Maine Shore Stewards, Volunteer Stream Monitoring Partnership, New Hampshire Lake Lay Monitoring Program, NC Watershed Watch, URI Watershed Watch, Pacific Northwest, Adopt-A-Lake (WI), WSU Beachwatchers
<b>Distribution of the Volunteer Monitor newsletter</b>	Alabama Water Watch, Hoosier Riverwatch, IOWATER, Maine Shore Stewards, New Hampshire Lake Lay Monitoring Program, Great Bay Coast Watch, NW Watershed Watch, URI Watershed Watch, Adopt-A-Lake (WI), Water Action Volunteers
<b>Email list server</b>	Alabama Water Watch, North Fork Volunteer Monitoring Project, Hoosier Riverwatch, Volunteer Stream Monitoring Partnership, St Louis River- Riverwatch, Great Bay Coast Watch, NC Watershed Watch, Water Action Volunteers, WSU Beachwatchers
<b>Social opportunities</b>	Alabama Water Watch, North Fork Volunteer Monitoring Project, IOWATER, St. Louis River-Riverwatch, Great Bay Coast Watch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, Community Fly Fisher, WSU Beachwatchers
<b>Advanced training</b>	Alabama Water Watch, Hoosier Riverwatch, IOWATER, Maine Shore Stewards, Volunteer Stream Monitoring Partnership, New Hampshire Lake Lay Monitoring Program, Great Bay Coast Watch, URI Watershed Watch, WSU Beachwatchers
<b>Awards program</b>	Alabama Water Watch, IOWATER, St. Louis River-Riverwatch, New Hampshire Lake Lay Monitoring Program, NC Watershed Watch, URI Watershed Watch, Adopt-A-Lake (WI), Water Action Volunteers, WSU Beachwatchers
<b>Paraphernalia</b>	Alabama Water Watch, IOWATER, St. Louis River-Riverwatch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, Adopt-A-Lake (WI), Tahoe-Truckee Snapshot, WSU Beachwatchers
<b>Distribution of other publications</b>	Alabama Water Watch, St. Louis River- Riverwatch, Great Bay Coast Watch, Illinois Basin/Spring Creek Blue Thumb, URI Watershed Watch, WSU Beachwatchers

### Topics of Concern to Programs

To gain an understanding of the issues that are facing volunteer water quality monitoring programs, we listed a number of potential concerns and asked coordinators to decide if the concern was major, minor, or not of concern with their program. All 21 responding program coordinators indicated that stability or quantity of program funding was a major or minor concern. The next most prevalent concern listed by coordinators was a loss of volunteer motivation over time. Lack of staff and concerns about use or acceptance of volunteer-collected data were indicated to be concerns with nearly every program. Of least concern to 20 responding coordinators were liability and legal access issues (Figure 4).

Other concerns listed by coordinators include:

- Declining pool of work-study students
- Lack of evaluation for assessing program impacts
- Inability to get data into digital format for GIS mapping purposes
- A poor relationship with regulatory agency that is primarily responsible for funding support, and
- Lack of local workshops/conferences on water quality

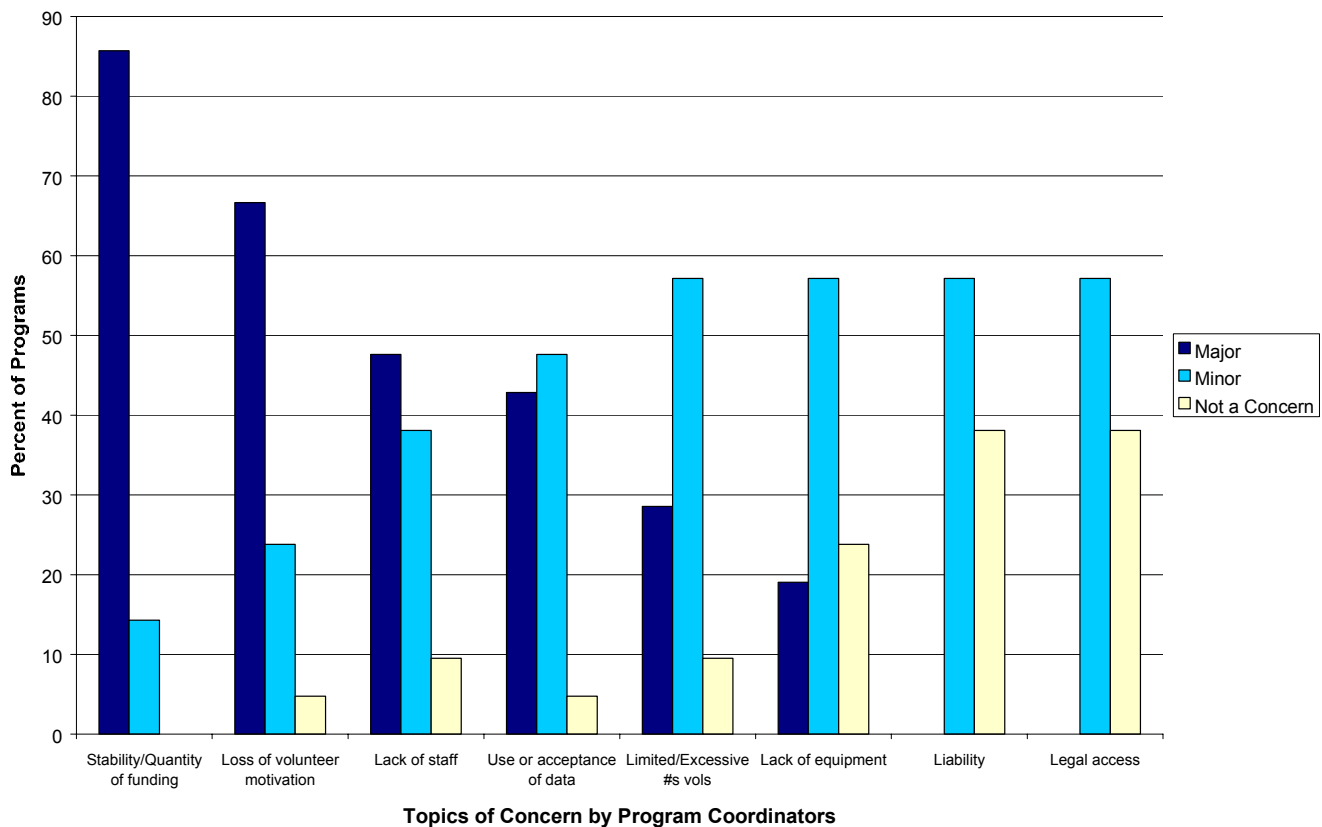


Figure 4: Topics of Concern, and the level of these, vary among 21 Extension volunteer water quality monitoring programs.

Time Well Spent: Estimating Total and Average Annual Volunteer Hours

We asked program coordinators to estimate the total number of hours contributed by all volunteers to their monitoring program during 2001. There was a wide range in the responses we received, with the 21 responding programs reporting that volunteers contributed between 20 and 26,000 total hours to their program in 2001 (Figure 5). The median number of hours contributed to programs in 2001 was 1700. The programs with the largest contributions of annual volunteer hours were Alabama Water Watch, Indiana’s Hoosier Riverwatch, and Minnesota’s Volunteer Stream Monitoring Partnership. There was a weak, but significant



positive linear relationship between the number of hours and the number of volunteers in the program ( $p < 0.05$ ,  $r^2=0.27$ ) (Figure 6).

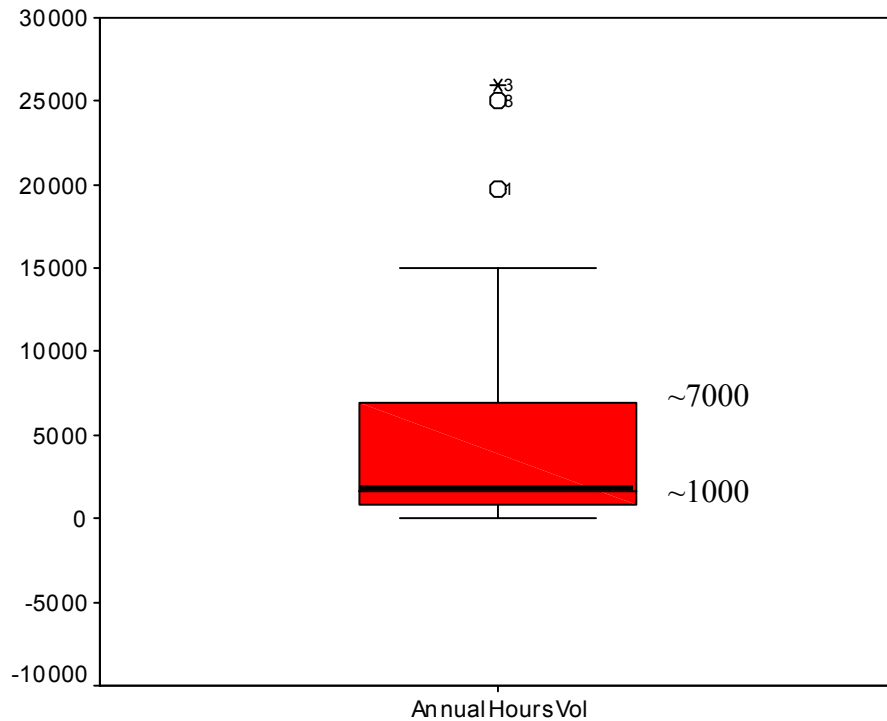


Figure 5: Box plot of 2001 total volunteer hours for 21 Extension volunteer water quality monitoring programs. The line within the red box shows the median number of volunteer hours (1700). The red box shows the upper and lower quartiles of this data set (labeled). That is, the bottom and top of the box show the range of the middle 50% of the programs' volunteer time contributions. The I-shaped line represents the overall range of programs' volunteer time contributions, excluding outliers. The circles and star in the upper portion of the plot show the extreme values in the data set that were considered to be outliers.

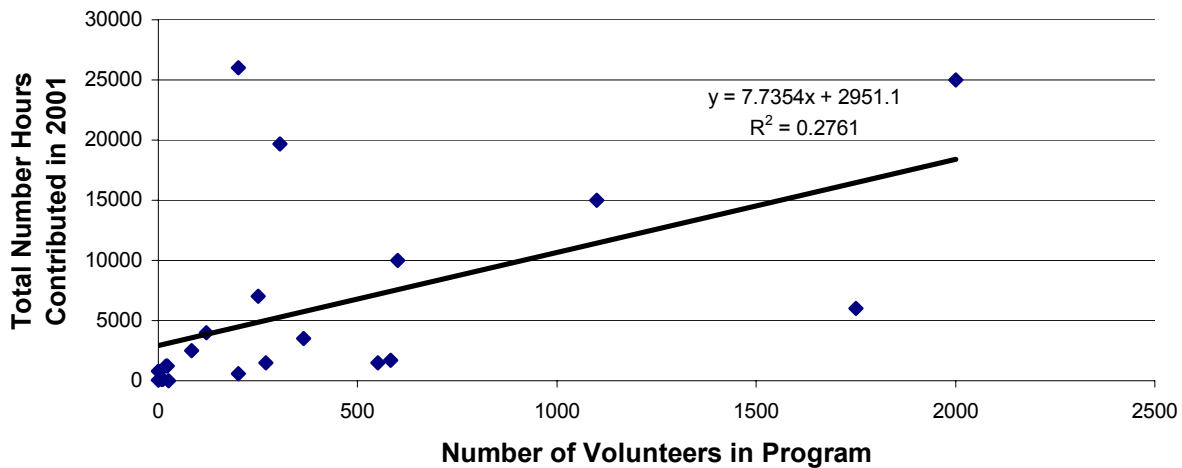


Figure 6: There was a significant positive relationship between the number of volunteers in programs and the total number of hours contributed in 2001.

Annual time contributions ranged from 1 hour to 130 hours per volunteer (we calculated these contributions by dividing annual hours by number of volunteers, both as reported by the coordinators). The average annual time contribution of individual volunteers was highest in the Hoosier Riverwatch Program. Table 2 lists programs, types of environments monitored and number of volunteers who monitored each, and average number of hours donated per volunteer during 2001. There was no difference in hours monitored between programs whose participants are primarily youth vs. those with more than 50% adult participants ( $p = 0.67$ ).

Table 2: Volunteers contributed varying amounts of hours to their local monitoring program

State	Program	Environments Monitored	Total Number Monitors	Total Number of Volunteers Hours in 2001	Average Hours Per Volunteer	50% or more volunteers are under age 18
AL	Alabama Water Watch	Stream, Lake, Marine/Estuary	305	19700	65	
CO	North Fork Volunteer Monitoring Project	Stream	20	1200	60	
IN	Hoosier Riverwatch	Stream	200	26000	130	✓
IA	IOWATER Volunteer Water Quality Monitoring	Stream, Lake	1100	15000	14	
KS	Private well monitoring	Wells	25	25	1	
ME	Maine Shore Stewards	Stream, Lake, Marine/Estuary	365	3500	10	
MI	Lake Superior Lake Watch	Lake	12	100	8	
MN	Volunteer Stream Monitoring Partnership	Stream	2000	25000	13	✓
MN	St. Louis River- River Watch	Stream, Marine/Estuary	600	10000	17	✓
NV/CA	Tahoe-Truckee Snapshot	Stream	200	600	3	
NH	NH Lake Lay Monitoring Program	Stream, Lake, Well, Wetland	583	1700	3	
NH	Great Bay Coast Watch	Marine/Estuary	120	4000	33	
NY	Community Fly Fisher	NA	NA	40	NA	✓
NC	Watershed Watch	Stream	8	100	13	
OK	Illinois Basin/Spring Creek Blue Thumb	Stream	23	1200	52	
RI	URI Watershed Watch	Stream, Lake, Well, Wetland, Marine/Estuary	250	7000	28	
WA	WSU Beach Watchers	Stream, Marine/Estuary	84	2500	30	✓
WA, ID, OR	Pacific Northwest Water Quality Monitoring Program	NA	NA	800	NA	
WI	Wisconsin Lakes Partnership/Adopt-a-Lake	Lakes	1750	6000	3	✓
WI	Water Action Volunteers	Stream	550	1500	3	✓
VT	Watershed Alliance	Stream, Wetland	270	1500	6	

## Putting a Dollar Value on Volunteer Monitoring

Quite often the question is asked, “How much is your volunteer monitoring effort actually worth?” There have been a variety of ways to determine this. Each year *The Independent Sector* ([www.Independentsector.org/programs/research/volunteer\\_time.html](http://www.Independentsector.org/programs/research/volunteer_time.html)) calculates the monetary value of volunteering in the United States. In 2001 it was \$16.05. This enables us to attach value of over \$27,000 to the median number of hours given annually by volunteers in these programs. URI Watershed Watch and a number of other programs have used the monetary value of volunteer time successfully for calculation of local match for volunteer monitoring efforts.

## Summary

Often times program coordinators assume that their most difficult tasks are figuring out what to monitor and how and then training their volunteers to do the work. Keeping volunteers motivated is just as critical and is an essential element in a successful program. Knowing who your volunteers are, why they are monitoring, recognizing their significant time commitment, and also encouraging and rewarding them for their efforts can make quite the difference!

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