

Stream of Consciousness

The Alliance for Aquatic
Resource Monitoring

Spring 1997

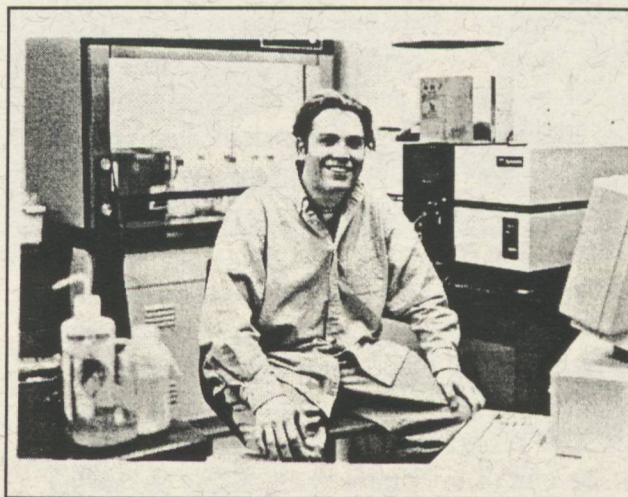
Support Center Moves Forward

By Scott Sheeder

As announced in our last newsletter publication, the ALLARM Technical Support Center has begun operations. For those of you who are new members, or who missed the article in the fall newsletter, the Technical Support Center is a new project that was made possible through a grant from the Pennsylvania Department of Environmental Protection. ALLARM was awarded the grant to continue to develop the citizen's water quality monitoring program that many people from across the state have helped us to achieve. More specifically, the grant provides ALLARM with money to act as a citizen laboratory for water quality monitoring groups.

Last semester, efforts were made to network with citizen monitoring groups wishing to utilize our resources. We have decided to provide toxics and heavy metal analysis to three citizen monitoring groups. These groups include the Lehigh Valley chapter of the Sierra Club, the Conodoguinet Creek Watershed Association, and the Pine Creek Headwaters Protection Group. Along with these three groups, we will be working jointly on a project with the Alliance for the Chesapeake Bay on Conestoga Creek. We are also hoping to work collaboratively with the Stroud Research Center.

On March 8, members of the ALLARM staff held the first Technical Support Center workshop. Candie Wilderman, Lauren Imgrund and staff members Stefanie Comastro, Jon Cox, and Scott Sheeder met with members



ALLARM staff member Christopher Junium will be using Dickinson College lab equipment to run the Center.

4 ALLARM Staff to Graduate

by Stefanie Comastro

As I am getting ready to graduate from Dickinson College, I look back at my four years on the ALLARM staff and think about how much of myself I have invested in ALLARM, but more importantly, I am realizing how much working here has given me. As a freshman, I was not only faced with the challenges of college life, but also of holding a regular job while being a student. I learned how to work in a group, became more confident in my communication skills, gave educational presentations about acid rain to elementary school students, wrote a publicity article to send out to Pennsylvania's environmental organizations, and published two editions of the Stream of Consciousness. I'll never forget

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Student Leaves After 4 Years

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publishing my first newsletter!

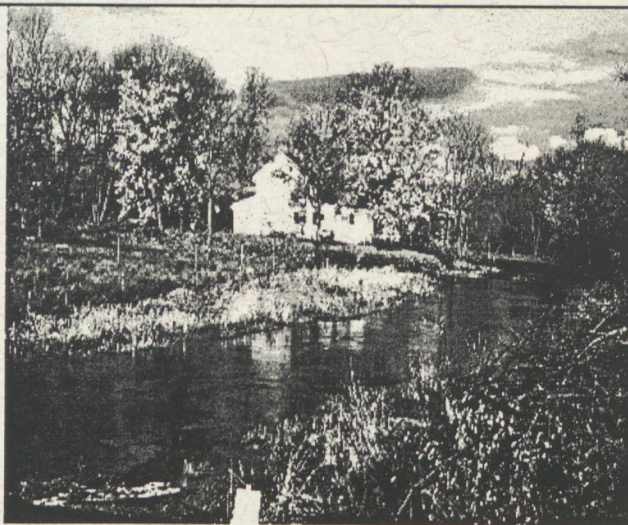
During my sophomore and junior years, I learned a great deal about the struggles of a non-profit environmental organization. Money and people power are the two elements necessary for the success of an organization. ALLARM had an enthusiastic staff and dedicated volunteers, but was running out of money and needed to attract new monitors. While searching for funding and recruiting volunteers, the staff managed to produce four editions of the newsletter, hold exciting new workshops on watershed delineation and macroinvertebrate sampling, successfully expand the volunteer base of the SMART program, and maintain daily operations. At the end of my junior year, during the spring

"I learned a great deal about the struggles of a non-profit environmental organization."

of 1996, ALLARM was granted \$100,000 dollars by the Department of Environmental Protection. Just what we needed to breathe new life into the organization. The possibilities seemed endless!

My fourth year with ALLARM has been the most amazing! Armed with all kinds of new ideas from a summer internship in volunteer monitoring and experiences from attending the National Volunteer Monitoring Conference in Madison, Wisconsin, I returned to ALLARM anticipating many exciting changes. The first being, moving out of the basement of the James Center into a new office (with windows) at the

see "Staff..." on page 3



Visual assessments involve recognizing the impact of surrounding land uses on your stream, like the farm above.

Lehigh Workshop a Success

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of the Lehigh Chapter of the Sierra Club to discuss the monitoring of Coplay Creek. At the workshop, volunteers learned how to delineate a watershed, utilize internet resources, and how to conduct a visual stream assessment. At the end of the workshop, members of the Lehigh Chapter drafted a set of goals and a preliminary plan of action for monitoring the Coplay Creek watershed. They decided that their first task was to perform a visual assessment, or streamwalk, of the reaches of the stream most impacted by human land use practices to determine what water quality issues are most pressing in their watershed. They are now ready to design their own monitoring program. ALLARM will assist the group in deciding which parameters to test in order to monitor the effects of the major impacts to the creek.

In the upcoming months, ALLARM staff members will meet with the other organizations that will be involved with the Technical Support Center. Activities similar to the Lehigh Sierra Club workshop will be conducted to help these organizations devise plans for monitoring and protecting their respective watersheds in the future.

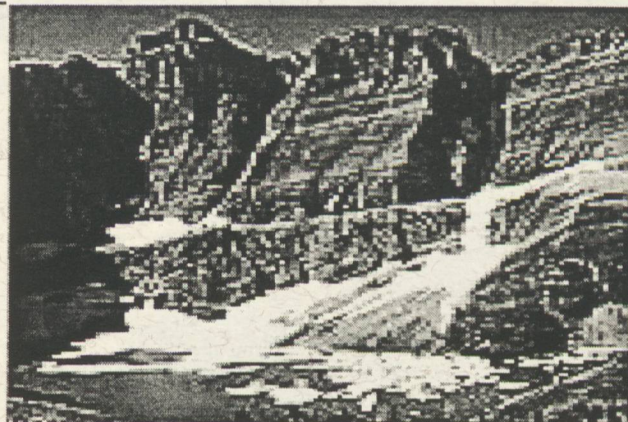
Staff Member To Graduate

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Clarke Center. Two weeks into the semester, Lauren Imgrund, our new Associate Director arrived. She has helped us reach goals we never thought we could reach. We even have brand new computers and nine staff members. With these changes, came the shift of ALLARM's focus. The new watershed initiative is off to a great start! We are currently assisting two groups, the Lehigh Valley Chapter of the Sierra Club, and the Conodoguinet Creek Watershed Association to design their own monitoring programs. SMART continues to grow, and our dedicated monitors are still outside once a week testing streams across the state for pH and alkalinity. This year I have had the opportunity to organize and run a workshop on streamwalking, put together a new slide show and script, assist with the first training workshop for our first watershed group, and witness the progress ALLARM has made.

Working for ALLARM has always been my favorite thing about being a student at Dickinson. I have learned just as much from my four years with ALLARM as I have in the coursework for my geology and Environmental Science majors, perhaps more. The experiences I have had have strengthened my passion for protecting water quality. The most important lesson has been knowing that people, working on the grassroots level, have a great deal of power in solving some of our most critical environmental problems. I know that I will carry what I have learned with me wherever I go.

I am excited about the future of ALLARM! I know a great deal will be accomplished. Part of me wishes I could stay to see it all happen, but another part of me knows it is time to move on and let other students have the opportunity to have as wonderful experience as I have had. Four years, eight editions of the newsletter, hundreds of phone calls, several



This summer, Stefanie plans to work with the Student Conservation Association in Glacier National Park.

workshops, tens of kits, and dozens of brainstorming sessions later, I am truly proud of what I have contributed to ALLARM and thankful for what the experience has given me. I wish Candie, Lauren, the future staff, and all ALLARM volunteers good luck in the future!

Cox Leaves ALLARM Staff After 3 Years

Before I go a-rambling, I want to thank all of the volunteers, colleagues, mentors, and advisors associated with the quality organization that collectively we call ALLARM. Thanks for three memorable and invaluable years.

I am not sure which came first—my desire to have clean watersheds and thus my interest in ALLARM, or my involvement in ALLARM and thus my inspiration for clean watersheds. Regardless of where my inspiration derives, throughout my life I am going to be involved with water quality issues. ALLARM has been a stabilizing force throughout my last three years which enabled me to see the purer waters when often I found myself wandering in a sea of disturbed waters. ALLARM has helped me to keep my priorities straight, to see the larger picture, to put things in perspective, and to remind me of what is truly important to me. I might actually have a little of Norman McClean's enigmatic specter nagging me—I am truly “haunted by waters.”

Thus I launch my canoe into mysterious and intriguing waters. See you down the river. -Jon

A Letter From The Director

By Lauren Imgrund

Do most people really care about environmental issues and water quality? Sometimes it seems that those of us concerned about the environment are working against most of the general population. However, a recent survey by The Roper Center for Public Opinion Research (PA Department of Environmental Protection, "Update," March 28, 1997) found that news about the environment was among the most interesting. Fifty-nine percent of the respondents were extremely, or very interested, in news about the environment. News "from where you live" and news about crime were the only categories that received higher marks.

According to a study by the National Wildlife Federation's Northeast Natural Resource Center protecting water quality improves economic health of the communities along the waterways. The survey, which focused on the Upper Connecticut River, found that water based recreation contributed \$30 million per year to the local economy and was responsible for over 700 jobs. Businesses that responded to the survey said that they "support local government involvement to protect water quality and public investment to provide for greater access to the river" ("International Wildlife, Volume 27, Number 2, March/ April 1997, p. 8) for recreational activities. The results of the study will be used to draft river corridor management plans.

Despite this good news, waters in the United States and in Pennsylvania are still far from meeting the federal Clean Water Act's 1972 goal "to restore and maintain the chemical, physical, and biological integrity of our nations's

waters." In this issue of "Stream of Consciousness," we will look at the federal Clean Water Act. In the fall issue we will examine how well Pennsylvania is complying with the Act and what the Department of Environmental Protection (DEP) is doing to enforce these laws.

In 1970, only thirty - six percent of U.S. waterways were safe for fishing and swimming and today sixty-six are. The Clean Water Act has

resulted in the abatement of over one billion pounds per year of toxic pollutant. Nine hundred million tons of untreated sewage is no longer discharged into our waterways.

How the Clean Water Act Addresses Pollution (Source: National Wildlife Federation, Office of Grassroots Action):

"While the Clean Water Act has helped the United States to make remarkable strides in cleaning up our waterways, much work remains to be done."

Industrial Point Sources:

The Act established a federal /state partnership to control industrial discharges using the following steps:

1) EPA develops national standards based on the "Best Available Technology" that is economically achievable.

2) States decide the best uses for their waterways and establish water quality standards to make the water clean enough for those uses.

3) Sewage Treatment plants must meet "secondary treatment" standards that use biological processes to transform disease-causing organisms into harmless forms.

4) Industry and sewage treatment plants must obtain a permit that specifies the type and amount of pollutants they may discharge (National Permitting Discharge Elimination System, NPDES.) In Pennsylvania, the DEP reviews

see "PA Waters..." on next page

PA Waters Still Far From Reaching CWA Goals

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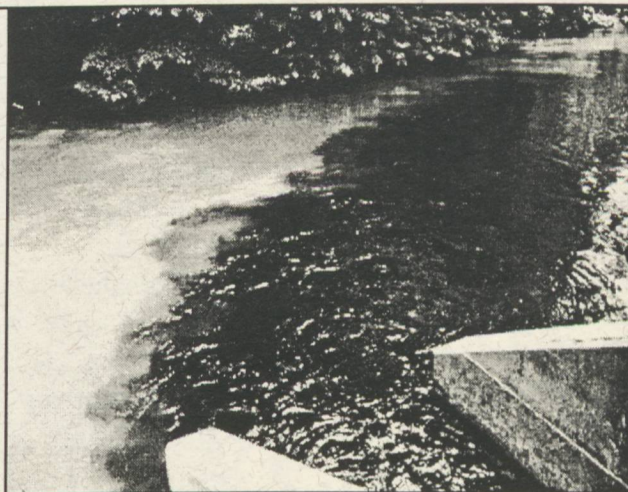
these permits.

Anti-degradation: One of the tenets of the Act is to ensure that waters that are already "fishable and swimmable" remain that way; therefore, pristine waters can be designated by states to receive special protection.

Urban Stormwater: Currently, heavy industries and cities with at least 100,000 residents must have stormwater discharge permits that establish minimum requirements for stormwater pollution. The permits are pollution control plans that do not establish specific limits on each pollutant, but dischargers are held accountable for complying with the requirements. In six years, smaller cities will be held to similar requirements. In many cases, smaller cities have storm water pollution run off problems equal to that of larger cities.

Non-point Runoff: Runoff from agriculture, forestry, mining and other sources is the largest remaining source of water pollution. Currently, states are required to plan and utilize cost-effective best management practices by landowners at the earliest practical date. Unfortunately, requirements for landowners who cause pollution are weak and unenforceable.

Wetlands: Section 404 of the Act is the principle federal regulatory program protecting wetlands. The U.S. Army Corps of Engineers administers the permitting program for discharge of dredged and fill materials into all U.S. waters, including wetlands. The EPA



Industrial dischargers such as the P.H. Glatfelter paper company of Spring Grove, PA are regulated under the Clean Water Act of 1972.

helps sets standards, comments on permit applications, and has rarely used veto authority.

The Act also provides states with the authority to veto any federal permit or licenses that would threaten state water quality including hydroelectric power licenses.

While the Clean Water Act has helped the United States to make remarkable strides in cleaning up our waterways, much work remains to be done. Thirty-four percent of waters remain unsafe for fishing and swimming. Pollution, in particular from non-point sources and toxics released to water and air, remains a threat to our waterways. Federal standards remain important for several reasons. They protect waterbodies that cover more than one state, e.g., the Chesapeake Bay and the Great Lakes. Standards also level the economic playing field between states. Without them, states might try to attract industry by establishing lenient pollution standards.

In the next issue of "Stream of Consciousness" we'll take a closer look at Pennsylvania's waterways and how citizen monitoring can help improve our state's water quality.

SMART Holds Workshops For Students And Teachers

By Susan Harrison and Jon Cohen

SMART, ALLARM's educational outreach program, is expecting to round off an action-packed year with many exciting activities. Presentations, a hands-on workshop for educators and students, as well as an evaluation as to the effectiveness of the program will occupy our sixth spring. These activities promise to continue spreading the word about SMART, ALLARM and water quality issues.

Over the past winter, the SMART staff has designed and given interactive presentations for all age levels. One of the most successful of these was given on January 29, 1997 at the Bellaire Elementary School in Carlisle. The presentation capped off the school's annual science fair. There were over a hundred students, parents, and grandparents in attendance.

After introductory remarks by the school principal, Allen Shank, the SMART staff, Susan Harrison and Jon Cohen, guided a cast of student volunteers in a skit documenting how pollution damages the environment. In keeping with the science fair's theme of, "the scientific method", the skit was followed by an experiment where student volunteers tested the pH of three water samples. The presentation gave the students an opportunity to demonstrate their knowledge of the scientific method while learning about water pollution. Programs, like the one at Bellaire Elementary School, are being designed for all age groups.

If an interactive presentation on water quality issues would interest a student group you are affiliated with, such as scouts, religious groups, etc., please give us a call. We will gladly work to tailor a program that meets your group's needs. Spread the word about SMART in your community!



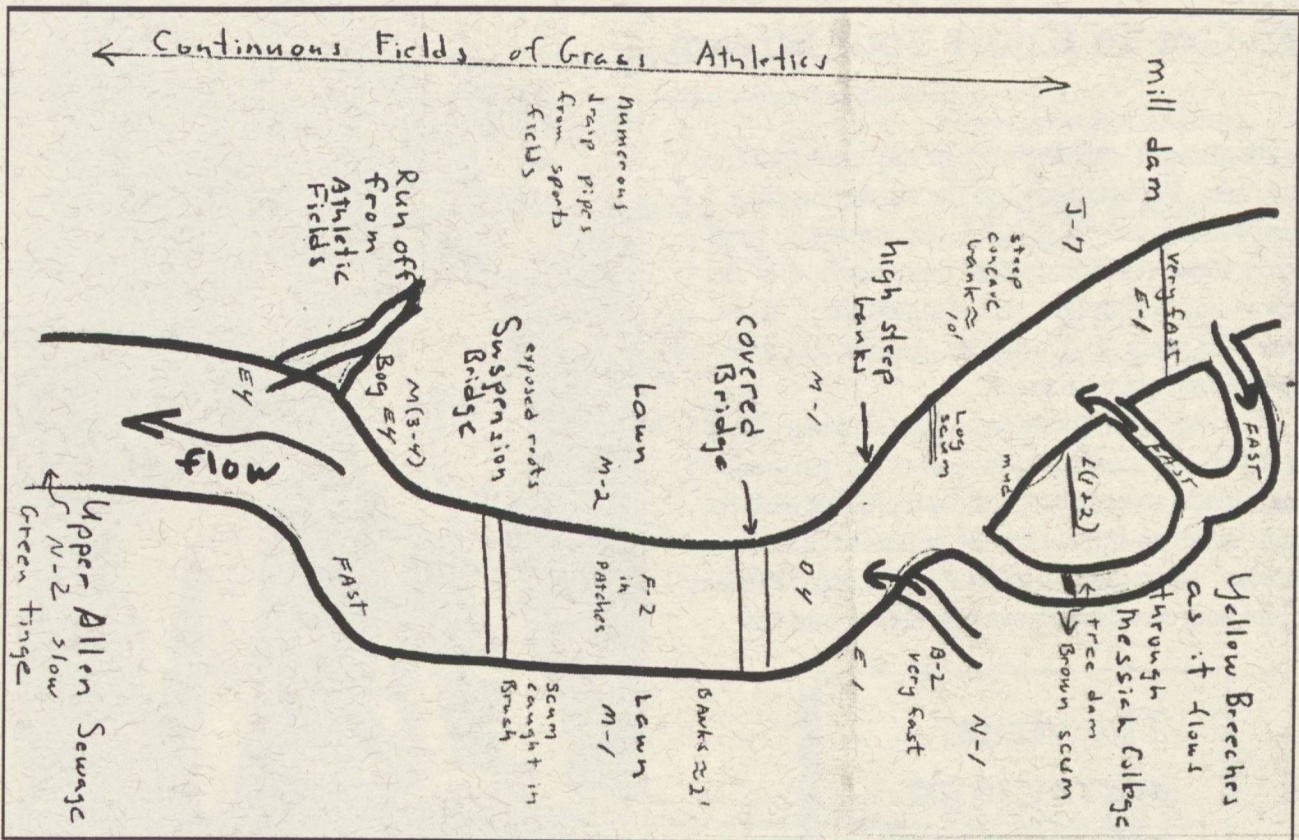
Students at the Bellaire elementary school learned how the pH of rainwater affects aquatic life in lakes and streams.

SMART Kids Corner!!!

ALLARM Spring Word Search

acidrain	fish	smart	volunteer
susquehanna	fun	earth	dickinson
pollution	health	monitor	smile watershed
stormwater	stream	allarm	waterquality cleanair

q	z	s	t	o	r	m	w	a	t	e	r	x	c	l	p
f	v	e	s	i	c	l	e	a	n	a	i	r	r	n	m
y	r	a	u	a	e	r	t	s	c	s	u	e	r	b	
t	d	t	s	b	l	d	d	j	t	z	h	i	e	h	r
w	n	r	q	i	y	e	s	o	l	m	s	e	t	q	y
w	e	a	u	t	f	z	n	e	r	m	t	r	m	t	a
c	l	m	e	p	q	y	j	a	i	n	a	f	i	c	h
i	m	s	h	o	b	s	l	l	u	e	u	l	i	t	x
w	l	s	a	l	x	l	e	l	u	n	a	d	l	s	w
m	s	l	n	l	a	u	o	b	t	u	r	a	q	f	i
r	l	c	n	u	q	v	y	b	q	a	e	d	n	k	k
b	d	m	a	t	d	u	j	r	i	h	d	t	e	j	r
y	a	b	f	i	i	t	e	n	e	v	j	u	k	q	h
p	u	h	i	o	n	t	n	r	o	t	i	n	o	m	i
d	a	t	s	n	a	f	d	i	c	k	i	n	s	o	n
p	s	g	h	w	m	f	d	e	h	s	r	e	t	a	w



The above map shows the section of the Yellow Breeches that is monitored weekly by Stephen Hodgson.

Site of the Issue: The Yellow Breeches Creek

By Evan Johnson

The spotlighted site for this issue is a site along the Yellow Breeches in Cumberland County. It lies about a mile outside of Messiah College where Stephen Hodgson takes his walk every morning. Mr. Hodgson is the monitor for this site, and the man responsible for the visual survey which you see above. He has been a dedicated ALLARM volunteer monitor for around four years, since May of 1993, collecting data, attending workshops, and has recently completed a thorough visual survey of the site.

A visual survey is a great way to keep track of the streams you care about. It can give you early warning signs of major problems in the ecosystem of the stream. It is also fairly easy to do, particularly if, like Mr. Hodgson, you know your stream very well. All that is required is one

to two hours out of any give day as often as you would like to do it (bi-weekly, monthly, or seasonally).

Using Mr. Hodgson's visual survey, I am going to walk you through the procedure briefly. First, you can either aquire a copy of a map of the stream which you will be surveying, or draw one as you go. Then, choose a starting point for the survey, mark it on the map, and indicate the flow direction. Next, using a survey data sheet which you can request from ALLARM, you record the classifications of specific qualities of the stream on the sheet. For example, on his sheet, Mr. Hodgson put down that the water color was clear, there was no odor, and no particular surface coating. This information is all very pertinent to assessing the quality of your stream.

Once you have the general qualities of the stream marked down, you should begin to see "Visual Survey" on next page

Visual Survey A Great Way To Get To Know Your Stream

continued from previous page

walk along it, making note of any abnormalities you see. For example, on the survey on page 7 you should see "L (1&2)". According to the code sheet, this means that there are both water-borne and floodplain accumulated litter. Also you will see a "F-2", and this means that there is dark green algae in areas.

Along the way, you want to make sure that you are marking down all of the pertinent man made structures on the stream, because they may have an impact on the behavior of the stream. Also make sure that you mark down any point source effluents which release into the

The visual survey is an effective tool for watching the quality of your stream.

stream, such as sewage pipes and industrial outfall. Note whether there is a water quality change between points directly before and shortly after the outlet. Note the surrounding landscape of the entire stream section of your map, whether it is woodlands or mowed lawn, as is the case of Mr. Hodgson's site. The site is near the section which runs through the Messiah College campus, so the lawn is mowed up to the edges of the stream. This was particularly important for him to record, because he also noticed that in that area, the banks are severely eroded. He put the two together and realized

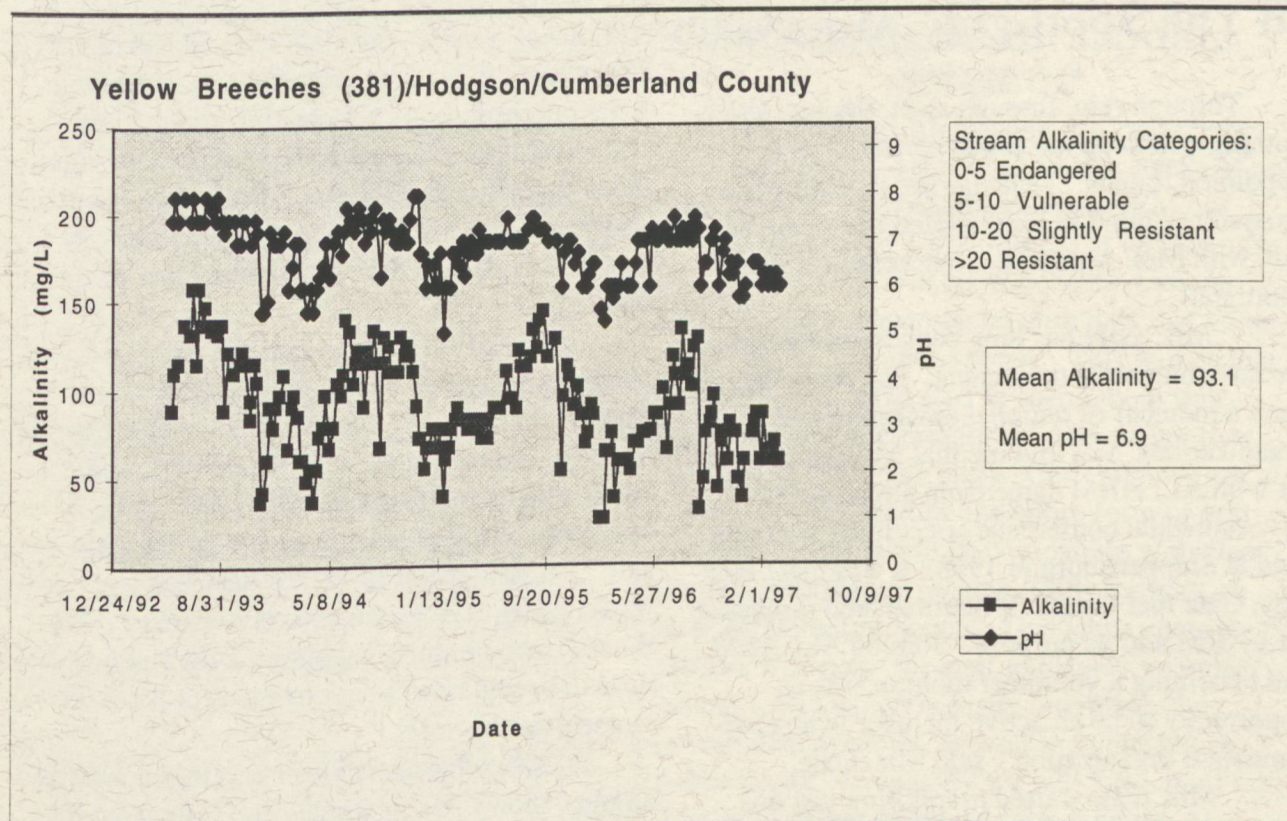


ALLARM's public outreach director, Evan Johnson, (l) with Stephen Hodgson at his monitoring site on the Yellow Breeches Creek in Cumberland County.

that the close mowing was the cause of the erosion. This eventually could have a significant impact on the health of the stream. He brought it to the attention of the college several times, and although they have yet to stop their destructive practices, we can only hope that his persistence will encourage the college to create a vegetated buffer zone along the stream.

All of these visual observations will help you to get to know your stream, and will tell you a good deal about the quality of the water and habitat. If you would like any additional information about performing a visual assessment, call or write ALLARM, and we will send it to you. The visual survey is an effective tool for

see "Hodgson" on next page



Above are five years of data on the Yellow Breeches Creek courtesy of Stephen Hodgson. Data such as these are invaluable for ALLARM, allowing us to analyze important long-term trends in your creek that can't be seen with one year's worth of data.

Hodgson Site Recognized

continued from previous page

watching the quality of your stream. It becomes even more so if the survey is repeated seasonally, because the data can then be compared. If one of the classifications has changed significantly, it could be a sign of trouble. The survey can also be used to show others (individuals as well as industries) what impact they are having on the stream. For instance, if Mr. Hodgson were to redo his visual survey in two to three months, and he found that the banks had increased to a three foot drop instead of a two foot drop, he could bring both surveys to the college and show them the impacts of their actions.

Well, before I end this article, I would like to thank Stephen Hodgson (and his wife) for being such a dedicated volunteer, having such a strong dedication to the preservation of that

section of the Yellow Breeches, and being such a kind man as to let Lucas Samaras (another ALLARM staff member) and me come and visit, take pictures of the site, and eat Mrs. Hodgson's brownies!

The ALLARM Staff:

Executive Director--*Candie Wilderman*

Associate Director--*Lauren Imgrund*

Office Manager--*Stefanie Comastro*

Data Manager--Jon Cox

SMART Coordinators--*Susan Harrison,
Jon Cohen*

Technical Support Center Director--

Scott Sheeder

Volunteer Outreach--*Chris Junium,*

Evan Johnson

Photographer--*Lucas Samaras*

GIS, Publications Director--*Mike Healy*

In The Spotlight: Anne Gale

By Jennifer Brust

Through rain, through sleet, through snow, nothing will keep the postal carrier from her appointed rounds. That was the thought which crossed my mind as I completed my conversation with Mrs. Anne Gale, our volunteer in the spotlight.

Mrs. Gale has long been involved with the environmental movement. For years she has been a member of national environmental organizations. She told me that her first encounter with ALLARM came from attending an environmental conference concerning acid rain held at Shippensburg in 1988. It was there that Mrs. Gale met Candie Wilderman and discussed ALLARM and its purpose. "Joining ALLARM and becoming a volunteer monitor was an opportunity to be an active member in an environmental organization", said Mrs. Gale.

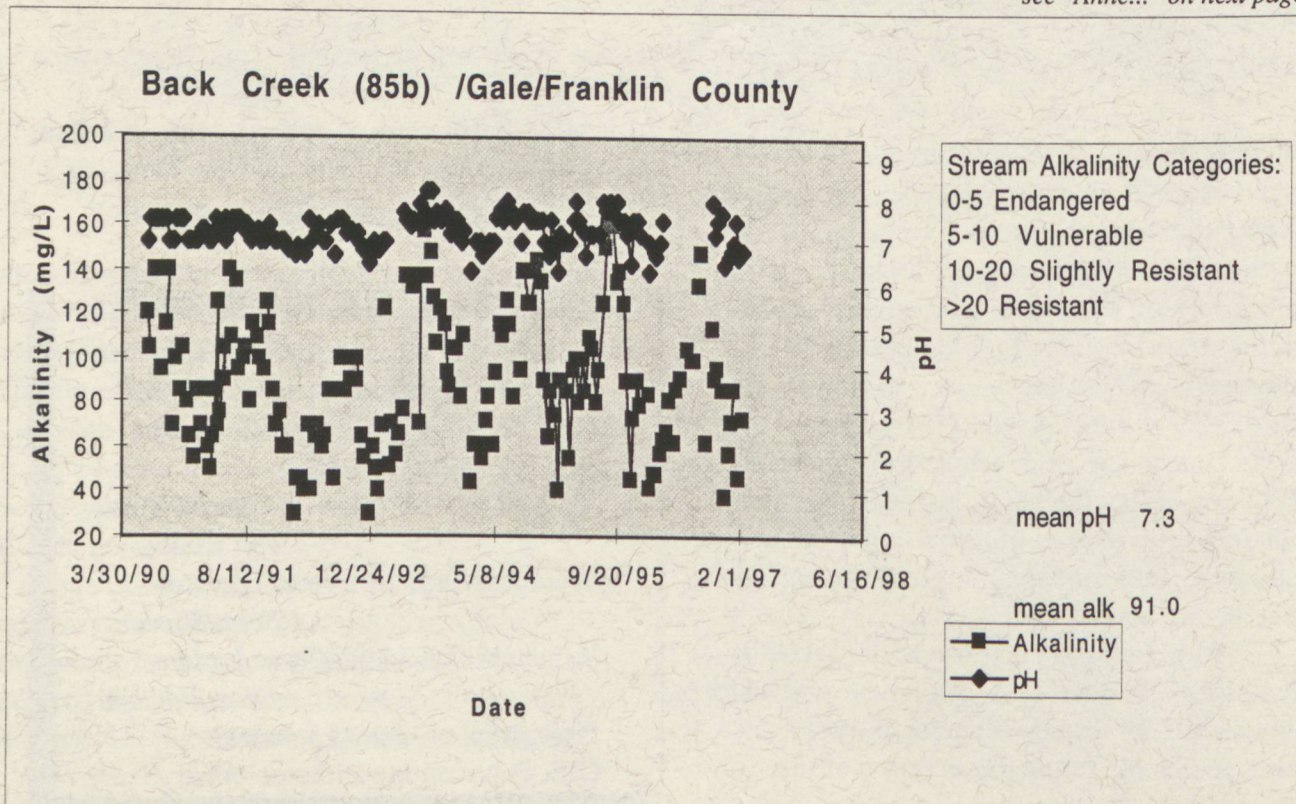
Mrs. Gale started monitoring just one stream periodically, adding another stream to her list of monitoring sites shortly after. She told

me, that as a retired physical science technician, she thought the testing procedures would prove to be interesting. As a recreational angler (sun-fish), it would allow her to learn more about the water quality of her streams. Anne Gale's enthusiasm and dedication have led to expanding her role in ALLARM. She is also a member of the board.

I asked Mrs. Gale what she likes best about being a monitor for ALLARM, and she told me that she is glad to be able to contribute to the database on water quality within PA, and being able to talk to people. Mrs. Gale said, "I enjoy being part of something bigger than myself." She told me of times she has been approached by persons who see her testing. "Old-timers" who reminisce about how the streams used to be and how it has changed for better or worse over the years.

One of the anecdotes I was told concerns a rather snowy day in which Mrs. Gale went to test her sites. She and her husband, who often

see "Anne..." on next page



Checket Wins Photo Contest | Data Management Update

by Stefanie Comastro

ALLARM is happy to announce that Robert Checket, monitor of Elizabeth Run in Lebanon County, Pennsylvania has won our photo contest. He submitted a wonderful photo essay of the stream through the seasons. Congratulations, Mr. Checket! You will receive a new ALLARM T-shirt as soon as we have them!

Mr. Checket's prize-winning photos can be seen on our web site at:

<http://www.dickinson.edu/~allarm>

The ALLARM staff would like to encourage all of our monitors and members to submit photos of themselves monitoring and of the stream they visit weekly or biweekly. We'd love to see stream monitoring from your perspective!

Anne Gale In the Spotlight

continued from previous page

accompanies her, went to test the water and when they returned found themselves stuck in the snow and ice. It was at this point in our conversation that the phrase about the postal carriers and their dedication came to mind. As it is with all monitors, there is a dedication to the bigger picture that keeps them actively testing and reporting.

Mrs. Gale does not plan to limit her involvement with ALLARM. She told me that she recently discovered that one of her streams, Back Creek, has a watershed association and plans to become actively involved in that as well. She hopes to be able to help with water testing or teaching others to monitor water quality.

At the end of our conversation, I thanked Mrs. Gale for her time and willingness to speak about her involvement with ALLARM, and thought, I hope Mrs. Gale, and every volunteer like her continues to work for the greater goal with the same sense of dedication for many years to come.

By Jonathan Cox

Thanks to the diligence of staff members Chris Junium and Scott Sheeder, the stacks of raw data are now in our database. ALLARM has hired staff member Chris Junium as an intern for this summer who will be responsible (among other things) for keeping up with data that volunteers send in over the summer. This will enable fall 1997 ALLARM staff to spend more time analyzing and interpreting the data, rather than catching up with data entry. Currently, we are in the process of changing the entire form of our database so that it will be compatible with Geographic Information System (GIS) formats, as well as internet protocols. This labor intensive process will allow the staff to display volunteer data in a way which is easily interpreted by government agencies, as well as by the entire public sector. Eventually we will have all of our data in an online graphical format on the ALLARM webpage. This means you and other concerned Pennsylvanians will be able to see your data online.

Your data are being put to good use! Candie Wilderman, Executive Director of ALLARM and Dickinson College Environmental Science faculty member, is currently working on publishing an analysis of Pennsylvania water quality as it relates to acid deposition. Mike Healy, ALLARM staff member, is working with Candie this semester entering ALLARM sites and data into a Geographic Information System (GIS). Results of this project will be posted on ALLARM's web-page in the future.

Monitors who have been actively monitoring since the beginning of 1995 will receive graphs of their data by the end of May. There will also be an article posted to the ALLARM web-page data link, which will offer some guidelines in interpreting these graphs. Questions or comments regarding any and all ALLARM data matters should be sent to: allarm@dickinson.edu or the ALLARM office address at Dickinson College. Cheers, Jon.

ALLARM Data To Be Used In GIS

by Mike Healy

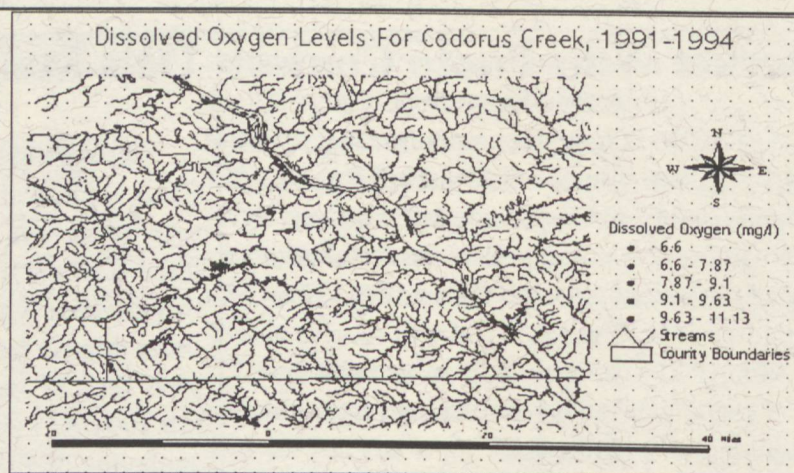
This year, with the help of the Dickinson College Environmental Studies Department, ALLARM is launching into the exciting field of Geographic Information System (GIS) analysis of stream data. The pH and alkalinity data collected by our volunteer citizen monitors are the first data to be used on the new GIS system at Dickinson College, which

"By the end of this spring, ALLARM hopes to have the majority of its citizen monitoring sites placed into GIS format."

was purchased last fall.

GIS technology is used by many of today's policy makers to help make important land-use decisions, such as assigning zoning and building permits. GIS systems allow researchers to look at several types of information spatially, or on a map. All kinds of data can be analyzed on a GIS system: geology, hydrology, census data, monitoring sites, land use, as well as traditional geographic data such as roads, man-made structures, and railways. Each set of data is called a "layer", which can be displayed with other layers to create custom-made maps. GIS layers can be connected to databases, allowing the spatial analysis of those databases.

ALLARM has big plans for the GIS system. By the end of this spring, ALLARM hopes to have the majority of its citizen monitoring sites placed into GIS format. Currently, sites are located on individual topographic maps, making analyses of data across a large geo-



Above is a site map published by ALLARM for the Codorus Creek Monitoring Network. GIS is a powerful tool for citizen monitoring and watershed groups.

graphic area (such as a big watershed or a county) difficult. When the sites and data are entered into GIS, county- and watershed- wide trends will be much easier to identify, since GIS allows people to look at geographic data at any scale. "The regular USGS maps weren't made on the basis of watershed delineations," said

see "GIS..." on page 15

Internet A Great Resource

by Jonathan Cox

The Internet, as you may well know, has a plethora of information related to environmental quality. I just wanted to point out a few great starting points for ALLARM volunteers:

Sites:

1) DEP home page:

<http://www.dep.state.pa.us>

2) EPA's "Surf Your Watershed page":

<http://www.epa.gov/surf>

3) ALLARM home page:

<http://www.dickinson.edu/~allarm>

4) Pennsylvania Environmental Network home page:

<http://www.envirolink.orgs/orgs/pen>

see "Web" on next page

Web Resources For Monitors

continued from previous page

Descriptions:

1) The DEP home page is the official internet source of public information from the Pennsylvania Department of Environmental Protection. It contains links to just about every environmental quality issue that the state agency is involved. The page also has a newsletter which is updated weekly. Check out the information on the Citizen Volunteer Monitoring initiative in the department!

2) The Environmental Protection Agency's "Surf Your Watershed" page is a relatively new site which is brilliant and will only get better. The page affords citizen groups and individuals the opportunity to geographically explore the watersheds all across the United States. Information seekers can find watershed groups active in their local regions, superfund sites located in their watersheds, Toxic Release Inventory data, and NPDES permit numbers for industrial effluent water releases. Groups and individuals can also submit information about personal efforts toward watershed preservation and rehabilitation for the benefit of others in their watershed. Find out what EPA is doing to make information available to you!

3) ALLARM's web page contains Technical Support Center information as well as SMART information, database information, and recent news. There is also information for new member sign-ups. Check out what Mike has been up to!

4) The Pennsylvania Environmental Network (PEN) page has information about environmental concerns in Pennsylvania and who is doing what to solve the problems. The following is an excerpt from the PEN page:

"Pennsylvania Is Number One In All The Wrong Things:

→ Pennsylvania is the largest importer of municipal waste (garbage) and of hazardous waste.

→ Locations in Pennsylvania rank 1st, 2nd, 4th and 13th out of the top 50 worst locations for acid rainfall in the U.S.

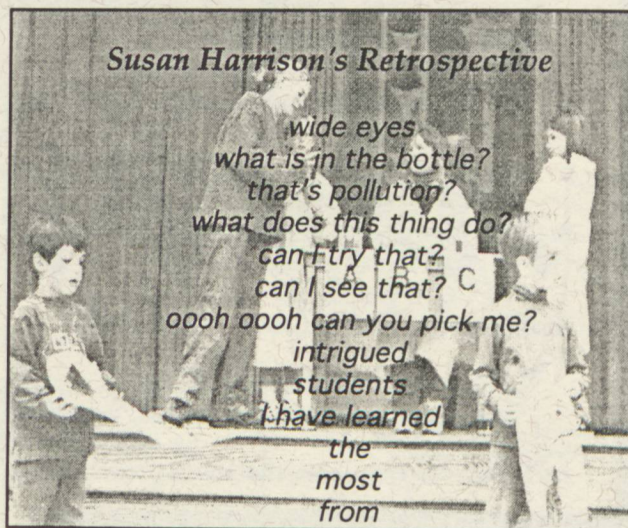
→ Pennsylvania has the largest rural population and the 2nd highest elderly population out of any state and is heavily targetted for waste facilities.

→ Pennsylvania is the worst state in the U.S. for acid mine drainage (which is the worst polluter of water in the state). We have the 2nd highest number of miles of rivers and streams (53,000) next to Alaska and about 3000 miles of them are contaminated by acid mine drainage.

→ The highest ambient air levels of lead in the nation are in Philadelphia, PA. This is primarily due to the Franklin lead smelter near the Allied Signal and Rohm & Haas plants (two other huge polluters) off of I-95 in Northeast Philadelphia. Philadelphia is 4th in the nation in polluted-air-related fatalities.

→ Pennsylvania has the 2nd largest number of Superfund toxic waste dumps next to New Jersey. PA has 103 sites on the Superfund National Priorities List (NPL).

→ Pennsylvania has the 2nd highest number of nuclear reactors next to Illinois and consequently produces the 2nd highest amount of nuclear waste."



ALLARM's First Support Center Director Graduates

By Scott Sheeder

Unfortunately, this was both my first and last year with ALLARM. Looking back on this year, I feel very fortunate to have been given the opportunity to become involved with the organization. Although I am excited to graduate, I wish that I had more time to spend working on the staff.

As the director of the technical support center, I feel that I have learned more through this experience than would ever have been possible in the classroom. Through the months that I worked with ALLARM, I gained experience in the use of technical laboratory equipment and computer

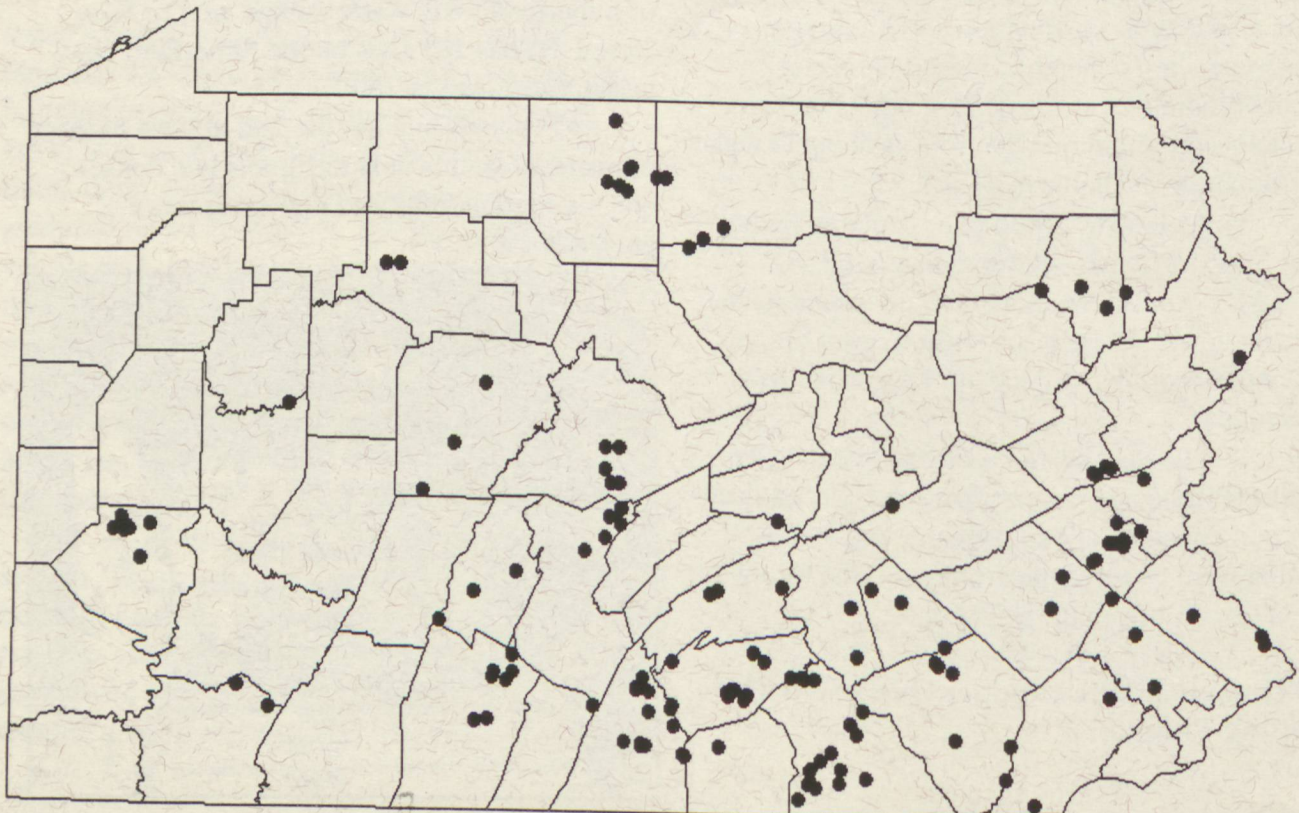
hardware and software. On the more intangible side, I gained experience in working and communicating with others and organizing and presenting information. As a biology major, I did not gain exposure to the environmental

problems that our state is facing. ALLARM gave me the opportunity to learn about these issues. I also became exposed to the actions that citizens can take to make a difference in the water quality in Pennsylvania and other areas downstream. Last but certainly not least, I feel fortunate to have become acquainted with many people throughout the state who are concerned about water quality issues.

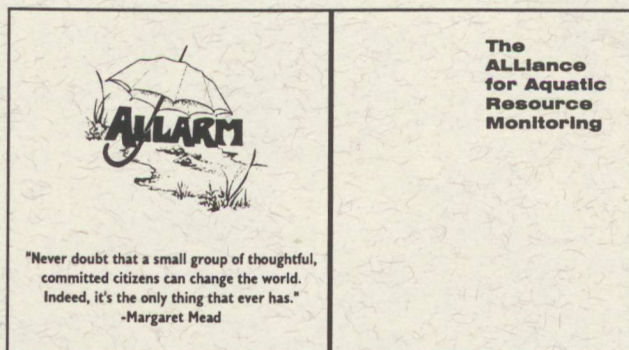
Beginning in July, I will be expanding
see "Technical..." on next page

"As a biology major, I did not gain exposure to the environmental problems that our state is facing. ALLARM gave me the opportunity to learn about these issues."

ALLARM Sites Currently In GIS



ALLARM T-Shirts on Sale!



100% heavyweight cotton, long sleeve

GIS Study Of ALLARM Data To Begin

continued from page 12

senior ALLARM staff member Scott Sheeder, of State College, PA. "This new GIS system will let us look at aquatic resource issues in a way that we never have before."

With the help of the ALLARM data and the new GIS system, ALLARM executive director Dr. Candie Wilderman hopes to find a relationship between rainfall patterns, watershed size, alkalinity, and geology.

Technical Support Center Director to Graduate

continued from previous page

my knowledge of environmental issues to the global level. I have been accepted into the Peace Corps, for a two year forestry position in West Africa. Although I am sad to be leaving the ALLARM staff, I am excited to embark on my new journey. I wish the best of luck to all past, present and future ALLARM volunteers and staff. I would like to say a special thank you to both Lauren Imgrund and Candie Wilderman for making my ALLARM experience possible.

ALLARM just had t-shirts printed with our great new logo on the back! If you would like to show it off while you are out at your monitoring site, fill out the form below!

Name: _____

Address: _____

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T-Shirt Size (adult):

M L XL

Number of shirts: _____

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Stream of Consciousness

Edited by: Michael Healy and Stefanie Comastro

Layout: Michael Healy

Published By:
ALLARM
Environmental Studies Dept.
Dickinson College
P.O. Box 1773
Carlisle, PA, 17013-2896

Phone: (717) 245-1565

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