

Stream of Consciousness

(A newsletter of ALLARM)

Edited by Lisa Hovis

March 1988

STREAM RANKINGS

by Maria Erwin

The following is a list of updated stream rankings for all the streams for which we have data, up to November 1987. You will notice that the classification scheme differs from the one used in our last newsletter. We have made the decision to categorize the streams based only on alkalinity, to be consistent with the current methodology used by the Pennsylvania Fish Commission.

Keep in mind that the pH and alkalinity of a stream will vary from the headwaters to the mouth. The following streams are categorized based on one site only; you may even see the same stream in several categories if several different sites are being monitored.

This summer, ALLARM volunteers will be compiling and graphing all of the 1987 data, and issuing a report which will include rather extensive data analysis and maps with site locations. We will be documenting trends in all the streams monitored, both in terms of alkalinity and pH. If you are interested in helping, let us know!

ENDANGERED

Alkalinity 0-5

Stream	County	Collector
Birch Run	Adams	Dropp
Carbaugh Run	Adams	Dropp
Lehigh	Carbon	Broadbent
Kings Gap Hollow, 1	Cumberland	Kings Gap Center
Kings Gap Hollow, 2	Cumberland	Kings Gap Center
Mountain Creek	Cumberland	Weirich
Toms Run	Cumberland	Herrold & Weirich
Powells Creek	Dauphin	Frautz
Stoney Creek*	Dauphin	Stoner & Mitzel
Susquehanna River	Dauphin	Flatley
Furnace Run	Franklin	Adams
Trout Run	Franklin	Eschenmann
Kelly's Run	Lancaster	Axelrod
Trout Run	Lancaster	Axelrod
Tucquan Creek	Lancaster	Axelrod
Walnut Run	Lancaster	Kerchner
Nescopeck*	Luzerne	Broadbent
Frozen Run	Lycoming	Huggins
Grays Run	Lycoming	Huggins
Pleasant Stream	Lycoming	Huggins
Red Run*	Lycoming	Huggins
Big Bushkill	Monroe	Broadbent
Logan Run	Northumber.	Frutzman
Laurel Run	Perry	Egolf
Shermans Creek	Perry	Egolf
Loyalsock	Sullivan	Broadbent

VULNERABLE

Alkalinity 5-10

Stream	County	Collector
Toms Creek	Adams	Davis
Poe Valley Lake	Centre	Reilly
Rock Run	Chester	Nature Center
Iron Run	Cumberland	Wierich
Pennsylvania Canal	Dauphin	Flatley
Clarks Creek	Dauphin	Corson
Laurel Run	Huntingdon	Long
Hammer Creek	Lancaster	Kerchner
Conewago Creek	Lancaster	Kistler
Pond, 2	Lancaster	Longenecker
Muddy Creek	Lancaster	Ream
Lycoming Creek	Lycoming	Huggins
Jackson Run	Perry	Brown
Duncannon Reservoir	Perry	Reilly
Conewago	York	Raab
Otter Creek	York	Reilly

*possible acid mine drainage

SLIGHTLY RESISTANT

Alkalinity 10-20

Stream	County	Collector
Conewago	Adams	Platt
Rabbit Run	Bucks	Klyce
Yellow Breeches	Cumberland	Seville
Laurel Lake	Cumberland	Weirich
Manada Creek	Dauphin	Schaffer & Davenport
Antietam Creek E.B.	Franklin	Etchison
Conococheague	Franklin	Dropp
Shavers Creek	Huntingdon	Long
Cocalico Creek	Lancaster	Kerchner
Conoy Creek, 1	Lancaster	Longenecker
Fresh Water Spring	Lancaster	Longenecker
Hammer Creek	Lancaster	Axelrod
Little Buffalo Creek	Perry	Reilly
Little Juniata Creek	Perry	Reilly
Conewago Creek	York	Keitsock
Long Run	York	Sunbury
Muddy Creek	York	Reilly

RESISTANT

Alkalinity >20

Stream	County	Collector
Plum Run	Adams	Platt
Alloway	Adams	Bream
Brock	Bucks	Broadbent
Millcreek, 1,2	Bucks	Baddeley
Neshaminy, 1,2	Bucks	Baddeley
Neshaminy	Bucks	Stout
Tohickon	Bucks	Broadbent
Penns Creek	Centre	Reilly
Conodoguinet Creek	Cumberland	Reilly
Conodoguinet Creek	Cumberland	Weirich
Fuller Lake	Cumberland	Weirich
Susquehanna River	Cumberland	Reilly
Yellow Breeches Creek	Cumberland	Reilly
Beaver Creek	Dauphin	Mahey & Davenport
Swatara	Dauphin	Dice & Mahey
Swatara	Dauphin	Mahey
unnamed	Dauphin	Fetterman
Shover Run	Huntingdon	Long
Standing Stone	Huntingdon	Long
Conestoga	Lancaster	Bare
Landis Run	Lancaster	Axelrod
Mill Creek	Lancaster	Bare
Swatara	Lebanon	Gohres
Little Buffalo Creek	Perry	Reilly
Little Buffalo Lake	Perry	Reilly
Little Juniata 1,2,3	Perry	Reilly
Lutman Run	Perry	Reilly
Montour Run	Perry	Egolf
Sherman's Creek	Perry	Reilly
Codorus	York	Reilly
Conewago Creek 1,2	York	Weirich

ALLARM SWEATSHIRTS AND T-SHIRTS !!!

Let others know that you are proud to be a part of the solution, by wearing your ALLARM sweatshirt or t-shirt! Order from the ALLARM office today!

White t-shirts and gray sweatshirts with green ALLARM logo on the front!

T-shirts \$ 7.00

Sweatshirts: \$14.00

Please send me ___ sweatshirts and/or ___ t-shirts. Enclosed is a check payable to ALLARM.

Sweatshirt sizes ___ S ___ M ___ L ___ XL
T-shirt sizes ___ S ___ M ___ L ___ XL

GROWTH AND NEED

by Candie Wilderman

We are happy to report that ALLARM has had a tremendous growth spurt since our last newsletter. In June of 1987, ALLARM had 54 volunteers in 14 counties. At the time of this writing we now have a total of 145 volunteers in 25 counties! The growth spurt is not yet over, and is primarily due to the attention that was focused on ALLARM in the January issue of the Pennsylvania Angler magazine. There are more people than we ever imagined in Pennsylvania, who are concerned about their environment, and who are anxious to make a contribution. Welcome to our new volunteers!!

In response to the new growth spurt, we have four new student volunteers working in the ALLARM office. They are: Donna Mease, Resa Dimino, Sarah Williamson and Greg Kaufmann. Lisa Hovis continues to be our student coordinator. Many, many thanks to all of them!

One thing that this new growth does bring with it is the need for extra funds for operating the ALLARM office. We are especially in need of funds for xeroxing, travel and postage. We need all the contributions that we can get, so if you can manage, now is the time to show us your support! Please send us your donations by clipping out the following form. Donations of \$25 get a free ALLARM t-shirt; \$50 (or more) donations get an ALLARM sweatshirt, and any amount will get a warm THANKS!

Yes, I am interested in helping to provide the financial support that ALLARM needs to continue its operations at its new size. Enclosed is my check, payable to ALLARM for the following amount:

___\$5 ___\$10 ___\$20 ___\$50 ___\$100 ___other

Please send me a complimentary:

___ ALLARM t-shirt (white)

___ ALLARM sweatshirt (gray)

Size ___S ___M ___L ___XL

and don't forget

**YOU'RE THE SOLUTION
TO WATER POLLUTION**

* ACID DEPOSITION CONTROL ACT INTRODUCED IN STATE LEGISLATURE! *

On February 23, 1988, Representative John H. Broujos introduced the ACID DEPOSITION CONTROL ACT in the Pennsylvania legislature. HB 2226 had 78 co-sponsors as of the day of introduction, with at least 8 additional members signing on since then.

The bill sets a goal of reducing SO₂ emissions to 0.9 lbs per million BTU. This goal represents Pennsylvania's share of the 12 million ton reduction of SO₂ called for in existing proposed federal legislation. HB 2226 also calls for nitrogen oxides reduction and a study of the costs of different strategies for reducing emissions. The bill also encourages federal legislation.

The bill has been referred to the House Conservation Committee, where a number of utility and coal industry interests are actively working to apply pressure to some representatives to drop their co-sponsorship.

WHAT YOU CAN DO

If your representative is a co-sponsor of HB 2226 (see attached list), thank him/her and ask for his/her continued support. If your representative is not a co-sponsor, ask him/her to add his/her name to the list of co-sponsors. Also ask your representative to urge the Chairman of the Conservation Committee to give the bill a fair hearing and to pass the bill this year.

Get your friends and neighbors to do the same! Numbers are very important!!

SUGGESTIONS ON YOUR LETTER TO YOUR REPRESENTATIVE

- 1) Make your letter personal! Inform your representative of your involvement with ALLARM.
- 2) Get friends and neighbors to cosign the letter

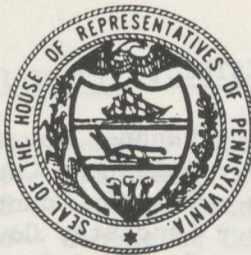
In general, our politicians are ill-informed on the issue of acid rain and seldom receive feedback from the voters. So write a letter or make a phone call, and make a difference!

*Send letters to the Senate Post Office (Senators) or the House of Representatives Post Office (Legislators), Main Capitol, Harrisburg, PA 17120.

JOHN H. BROUJOS, MEMBER
6 N. HANOVER STREET
CARLISLE, PENNSYLVANIA 17013
PHONE: (717) 249-1990

EAST BERLIN AND DOVER
PHONE: (717) 292-5555

15-E, MAIN CAPITOL BUILDING (EAST WING)
HARRISBURG, PENNSYLVANIA 17120-0028
PHONE: (717) 787-4082



COMMITTEES

AGRICULTURE
CONSERVATION
LOCAL GOVERNMENT
MILITARY AND VETERANS AFFAIRS

ACID RAIN CAUCUS, CHAIRMAN
LEGISLATIVE CHILDREN'S CAUCUS,
TASK FORCE ON CHILD ABUSE,
CO-CHAIRMAN

199TH LEGISLATIVE DISTRICT

House of Representatives

Sponsors of Acid Deposition Control Bill HB 2226

<u>NAME</u>	<u>DISTRICT</u>	<u>HOME OFFICE NUMBER</u>
Representative George Hasay	117 - Luzerne County	717-735-2794
Representative Thomas Michlovic	35 - Allegheny County	412-823-9228
Representative Curt Bowley	65 - Warren County	814-968-5670
Representative Richard Hayden	194 - Philadelphia County	215-483-5332
Representative John Barley	100 - Lancaster County	717-394-3916
Representative Stanley Jarolin	119 - Luzerne County	717-779-1988
Representative Joseph Battisto	189 - Monroe County	717-629-5322
Representative Kevin Blaum	121 - Luzerne County	717-825-5934
Representative Michael Bortner	95 - York County	717-846-0095
Representative Kenneth Brandt	98 - Lancaster County	717-367-5223
Representative Alvin Bush	84 - Lycoming County	717-322-6670
Representative Mario Civera	164 - Delaware County	215-352-7800
Representative Edward Carlson	68 - Tioga County	717-724-2279
Representative Thomas Caltagirone	127 - Berks County	215-376-1529
Representative Italo Cappabianca	2 - Erie County	814-453-7639
Representative Scot Chadwick	110 - Bradford County	717-265-3124
Representative Kenneth Cole	91 - Adams County	717-334-1904
Representative Gaynor Cawley	113 - Lackawanna	717-347-0647
Representative Jeffrey Coy	89 - Franklin County	717-264-3943
Representative Dwight Evans	203 - Philadelphia County	215-549-0220
Representative Robert Freeman	136 - Northampton County	215-253-5543
Representative David Heckler	143 - Bucks	215-348-0600
Representative Robert Godshall	53 - Montgomery County	215-721-1555
Representative Lois Sherman Hagarty	148 - Montgomery County	215-667-3889
Representative John Kennedy	88 - Cumberland County	717-763-0157
Representative Paul McHale	133 - Lehigh County	215-691-3171
Representative Nicholas Micozzie	163 - Delaware County	215-259-2820
Representative Fred Noye	86 - Perry County	717-582-8119
Representative Merle Phillips	108 - Northumberland County	717-286-5885
Representative Karen Ritter	131 - Lehigh County	215-437-0968
Representative Ruth Rudy	171 - Centre County	814-364-9724
Representative William Rybak	135 - Northampton County	215-821-6190
Representative John Showers	85 - Union County	717-966-3811
Representative Ted Stuban	109 - Columbia County	717-759-8734
Representative Michael Veon	14 - Beaver County	412-847-1352
Representative Benjamin Wilson	144 - Bucks County	215-675-0732
Representative Joseph Lashinger	150 - Montgomery County	215-272-4541
Representative Gerard Kosinski	175 - Philadelphia County	215-533-5553
Representative Joseph Preston	24 - Allegheny County	412-361-3692
Representative Samuel Morris	155 - Chester County	215-469-6287
Representative John Pressman	132 - Lehigh County	215-434-3415
Representative Anthony Melio	141 - Bucks County	215-945-0300
Representative Greg Snyder	94 - York County	717-382-4595

NAMEDISTRICTHOME OFFICE NUMBER

Representative Ronald Black	64 - Venango County	814-437-2110
Representative Thomas Murphy	20 - Allegheny County	412-321-1444
Representative Joseph Manmiller	105 - Dauphin County	717-652-1699
Representative Marvin Miller	96 - Lancaster County	717-299-0648
Representative Connie Maine	6 - Crawford County	814-336-1986
Representative Mary Ann Arty	165 - Delaware County	215-623-3033
Representative Scott Dietterick	120 - Luzerne County	717-288-3990
Representative Ronald Raymond	162 - Delaware County	215-534-1002
Representative Paul Clymer	145 - Bucks County	215-257-0279
Representative Bruce Smith	92 - York County	717-938-4988
Representative Kathryann Durham	160 - Delaware County	215-874-1358
Representative June Honaman	97 - Lancaster County	717-898-2419
Representative Terry Punt	90 - Franklin County	717-762-9222
Representative Jeffrey Piccola	104 - Dauphin County	717-545-0376
Representative Terry Scheetz	99 - Lancaster County	717-733-8655
Representative Frank Serafini	114 - Lackawanna County	717-586-7205
Representative Carmel Sirianni	111 - Susquehanna County	717-278-3374
Representative Thomas Tighe	118 - Luzerne County	717-655-4883
Representative Terry VanHorne	54 - Westmoreland County	412-339-1990
Representative Frank Pistella	21 - Allegheny County	412-621-4625
Representative Andrew Carn	197 - Philadelphia County	215-684-4515
Representative Edwin Johnson	80 - Blair County	814-695-2398
Representative Robert Reber	146 - Montgomery County	215-326-9563
Representative Thomas Dempsey	- Lycoming County	717-321-1270
Representative Lynn Herman	77 - Centre County	814-238-5477
Representative Peter Vroon	157 - Chester County	215-647-5776
Representative Michael Dawida	36 - Allegheny County	412-461-4710
Representative Jon Fox	153 - Montgomery County	215-885-3500
Representative Frank Oliver	195 - Philadelphia County	215-684-3738
Representative Robert Donatucci	185 - Philadelphia County	215-468-1515
Representative William Rieger	179 - Philadelphia County	215-229-6980
Representative Roy Cornell	152 - Montgomery County	215-674-3755

REPRESENTATIVES TO BE ADDED AS CO-SPONSORS:

Representative Ronald Gamble	44 - Allegheny County	412-693-9465
Representative Mark Cohen	202 - Philadelphia County	215-924-0895
Representative Ralph Acosta	180 - Philadelphia County	215-634-1660
Representative Stephen Friend	166 - Delaware County	215-789-0300
Representative John Davies	129 - Berks County	215-670-0551
Representative Elinor Taylor	156 - Chester County	215-436-4433
Representative Babette Josephs	182 - Philadelphia County	215-977-7732

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CLEAN AIR: WE NEED PENNSYLVANIA'S HELP

Federal Legislative Update



Pennsylvania is the number one receiver of **acid rain**, as well as the number two producer of the substances that cause acid rain in the nation. The air in Allentown-Bethlehem is above the federal health standard for **ozone**; the air in Pittsburgh is above the health standard for **carbon monoxide**. Thousands of deadly **airborne toxics** are emitted into the air all over the state each year.



You have big air pollution problems, but you can also be a big part of the **solution**. Legislation to begin to clean up our air is making its way through both the Senate and the House and the Pennsylvania delegation will play an increasingly important role as we develop clean air legislation in the Congress. **Your lawmakers need to hear from you that Pennsylvanians must take the lead if we are to complete clean air legislation by this summer.**

THE SENATE

Ready for a vote in the United States Senate is **S.1894**, a comprehensive rewrite of the Clean Air Act. Industry is fighting to kill this bill before it even gets a fair hearing on the Senate floor. We must work to have this bill scheduled and the support of Senators **Arlen Specter** and **John Heinz** are crucial to our efforts. As lawmakers from an industrialized state, Senators Specter and Heinz have concerns about S. 1894. These concerns can never be addressed, however, if S. 1894 is not even considered by the Senate.

There are two important ways for Senators Specter and Heinz to show they care about protecting the health and welfare of Pennsylvania. First, they can **sign a letter to Senate leaders Robert Byrd and Robert Dole** asking them to schedule S. 1894 on the Senate floor. Second, they can **cosponsor S. 1894**.

The letter to Senators Byrd and Dole, which is called the Burdick-Stafford Letter, merely asks the leadership of the Senate to treat S. 1894 as a priority matter for prompt scheduling on the Senate floor. The letter is the perfect vehicle to give Senators Specter and Heinz the opportunity to debate this bill and raise their concerns.

Cosponsoring the bill is another way for the Senators to make a public statement that they support clean air and keep the process moving. The only way Pennsylvania and the nation will have clean air is if this bill is supported by enough Senators to overcome industry pressure.

Please write or call Senators Specter and Heinz and ask them to sign the

Burdick-Stafford letter and cosponsor S. 1894:

The Honorable Arlen Specter
331 Hart Office Building
United States Senate
Washington, D.C. 20510
202-224-4254

The Honorable John Heinz
277 Russell Office Building
United States Senate
Washington, D.C. 20510
202-224-6324

THE HOUSE

The House Health and the Environment Subcommittee has begun voting on clean air legislation. The subcommittee has completed work on the acid rain section of the bill and now begins work on legislation to control urban smog and carbon monoxide. We hope the committee will complete its clean air package and add, like S. 1894, an airborne toxics section.

Pennsylvania Representative, Doug Walgren of the 18th District, is a member of the subcommittee and deserves much praise for his unfailing support for a clean air bill. He is under enormous pressure from industry, but has held to a strong position. If Doug Walgren is your Representative, please call his office (time is short) and **thank him for his clean air votes and urge him to continue to support a strong clean air bill.** Representative Walgren's phone number in Pittsburgh is 391-4016; his number in Washington is 202-225-2135.

When the bill advances to the House Energy and Commerce Committee, Representative Don Ritter of the 15th District will join Representative Walgren in considering the legislation. If Ritter is your Representative, please write to Representative Ritter and ask him to **support a strong clean air bill and include an airborne toxics section in the legislation** [address is below].

If you don't live in the 15th or the 19th District, you can still help right now by writing to the Speaker of the House James Wright, and Majority Leader Thomas Foley, and asking them to make clean air a priority this year. Let them know that:

- clean air should move quickly because many areas with unhealthy air face sanctions after August 31, 1988;
- this issue has been up for consideration for 8 years and every day we delay means more damage to our health and natural resources.
- the House, like the Senate, needs to pass a comprehensive clean air bill.

ADDRESSES

The Hon. James Wright
Speaker of the House
U.S. Capitol
Washington, D.C. 20515

The Hon. Thomas Foley
House Majority Leader
U.S. Capitol
Washington, D.C. 20515

The Hon. Don Ritter
2447 Rayburn Building
U.S. House of Representatives
Washington, D.C. 20515



Working for the Nature of Tomorrow

NATIONAL WILDLIFE FEDERATION
1412 Sixteenth Street, N.W., Washington, D.C. 20036-2266

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2447 Rayburn Building
U.S. House of Representatives
Washington, D.C. 20515



Working for the Nature of Tomorrow

NATIONAL WILDLIFE FEDERATION
1412 Sixteenth Street, N.W. Washington, D.C. 20036-2266

Rep. Broujos sees acid-rain crisis, proposes legislation

By Kenn Marshall
Patriot-News

Pennsylvania must take immediate action to reduce acid rain, a Cumberland County legislator says.

Rep. John H. Broujos, D-Carlisle, announced legislation that would require power plant operators to cut emissions of some poisonous gases by more than half over the next decade, and switch to clean coal-burning technology.

Acid rain already has contaminated more than 5,000 miles of the state's best fishing streams, according to the Pennsylvania Fish Commission. It has eroded

buildings and monuments across the state, particularly in the west.

Some of the nation's highest levels of acid rainfall have been measured in Pennsylvania, with Little Buffalo State Park in Perry County topping the list.

Broujos' plan, which he said has 78 co-sponsors in the House, would require utility companies in the state to install cleaning systems on their coal-burning power plants to reduce sulfur dioxide emissions. Reductions should start taking place in three years.

It also would direct the secretary of the state Department of Environmental Resources to

work with other states to develop an interstate control program.

The legislation would encourage the continued use of high-sulfur Pennsylvania coal, which would be burned with newer, cleaner technology.

DER also would be required to conduct a study into how much new air-emission control systems would cost to install and operate.

A series of public hearings would be held across the state to investigate cost questions, Broujos said.

The utility industry argues the new controls would be too

costly and that consumers would have to pay for them with higher electric bills.

The Pennsylvania Coal Association quickly came out against Broujos' proposal today, saying the legislation is not needed.

The group cited a report by the National Acid Precipitation Assessment Program which it says shows that forest and crop damage is unlikely to occur at current emission levels and that the acid deposition does not cause health problems.

Environmental groups support the legislation and say the effects of acid rain build up over time as

soil and water lose their ability to wash out the toxins. Acid rain also may cause as many as 20,000 premature deaths a year in the

United States, resulting from respiratory problems primarily in children and the elderly, one group spokesman said.

Lawmakers propose bill to curb acid rain

By Rich Kirkpatrick
Associated Press

HARRISBURG — Lawmakers yesterday proposed a comprehensive bill to control acid rain, saying it would serve as a model for other major industrial states.

The bill, proposed by the Bipartisan Legislative Acid Rain Caucus, would set goals to cut sulfur and nitrogen emissions, require state officials to seek cooperation with other states in controlling acid rain, and propose a state policy to develop a clean-coal technology to enhance the use of Pennsylvania reserves, said Rep. John H. Broujos (D., Cumberland), caucus chairman.

"Acid-rain controls are part of our total environmental responsibility," Broujos said, adding that 78 House members had cosponsored the bill. "We have no right to pollute God's earth with 10 million tons of [sulfur dioxide] annually."

Dennis Guise, chief counsel of the Pennsylvania Fish Commission, said 5,000 miles of trout streams in the state were vulnerable to acid problems.

"Pennsylvania is in the eye of the storm of acid rain," he said. "We are one of the largest emitters into the atmosphere and one of the largest victims of acid ... precipitation."

The Pennsylvania Coal Association opposes the legislation, saying the national Clean Air Act would reduce sulfur emissions at a lower cost than the measure proposed by the caucus.

Broujos' proposal would cut mine jobs and affect other industries, the association added. It also said Broujos had ignored a study by the National Acid Precipitation Assessment Program, which said sulfur emissions had declined significantly since 1970 and would continue to do so.

The bill's provisions would require that:

- The average quarterly emissions of sulfur by electric utility and boiler units be limited to 2 pounds per million BTUs within three years, 1.2 pounds per million BTUs within 10 years and 0.9 pounds per million BTUs within 15 years. Newer plants are now required to meet a 2-pound to 2.5-pound standard, Broujos said.

- The Department of Environmental Resources set average quarterly emissions for nitrogen within 3½

The caucus said putting controls on emissions would reduce any need for switching to other fuels "and preserve and promote our significant reserves of coal as an alternative source of energy to oil in the event of reduced availability resulting from international political disruption."

Legislation pending in Congress calls for cutting sulfur dioxide emissions by 10 million tons per year below 1980 levels. In Pennsylvania, emissions would have to be cut 846,000 tons per year, or 41 percent.

But the caucus said that the state must move ahead on acid rain, even without federal and interstate laws, years, to be effective within 10 years after a law is enacted.

- The DER develop both sulfur dioxide and nitrogen oxide standards for industrial users within two years, to be effective by Dec. 31, 1998.

Technology is available to remove more than 90 percent of sulfur dioxide and significant portions of nitric oxides from emissions, the caucus said in an analysis released with the bill. It said the cost of installation should be borne equitably among all levels of government, utilities and consumers.

THE WIZARD OF ID By Parker and Hart



THE ALLARM PUZZLE

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S E L I B O M O T U A L L P B L C
R A E N O I T A D I X O R G O E I
Y R W D P A R T I C L E S N X G T
T P S L I A D A N A C S D I S I Y
I E M L N X R O T I N O M T W S T
C N A C D T O X P A E R O S O L I
A N E N I T R I C O X I D E H A N
P S R R V O T T D U Y D R T C T I
A Y T E H A I E F R O E I E R I L
C L S E T C S E R A U I F M E O A
G V L I M N O L O G Y F L O P N K
N A O S O I L S S H C I L N A S L
I N C W A A S T E A S D E U P T A
R I R E F R O S T U G I E M S S G
E A O D F D L U I G T C F E U E T
F V P E O I E N T O K A N N M R I
F O S N M C G P R C N E T T T O O
U L L L I A H G O F W S I S I F N
B U A X A L Y H U S C L S W L I R
S N O V L K S P T D I A T O M S E
R T C O X D E L O V N T X R A P A
L E S T I T U S O I N L I M I N G
R E A C C R E T A W D N U O R G A
M R A L L A E R Y R T S U D N I N

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FIND the words listed
below in this
puzzle.

Words may be:
horizontal
vertical
diagonal
backward
forward

ACIDIFIED
ACID RAIN
ACID SHOCK
AEROSOL
ALKALINITY
ALLARM
AUTOMOBILES
BUFFERING CAPACITY
CANADA
COAL
CROPS
DEPOSITION
DIATOMS
EMISSIONS
FISH
FOG\FORESTS
FROST
GAS
GROUNDWATER
HAIL
INDUSTRY
LAKES
LEGISLATION
LIMING

LIMNOLOGY
LITMUS PAPER
MONITOR
MONUMENTS
NITRIC OXIDE
OXIDATION
PARTICLES
PENNSYLVANIA
pH
PRECIPITATION
RAIN
REAGAN
SLEET
SNOW
SOIL
STATUES
STREAMS
SULFUR DIOXIDE
SWEDEN
TESTING
TOXIC
TROUT
VOLUNTEER
VOTE

SPOTLIGHT ON KIDS

by Kelly Greene

School age children are concerned about acid rain too. And rightfully so since this is the environment which they will inherit. Three area elementary students with a little help from their parents, decided to focus their Science Fair projects on acid rain. BRAVO to Katie Scheneman, Josh Weirich, and Scott Brumbaugh! Keep up the good work. You're on your way to being the pioneers of tomorrow.

***Katie Scheneman:**

"My science project was to measure acid rain in local streams. I was trying to find out if streams that flowed over Limestone (LeTort and Yellow Breeches) could buffer the effects of acid rain better than those streams that had shale beds (Mountain Creek and Cold Spring). The streams with high alkalinity (LeTort, Yellow Breeches, Tulpehocken and Cacoosing) showed small changes in their pH level after the acid was added. The streams that had the lowest pH were Cold Springs, Kings Gap and Mountain Creek. My project demonstrated that buffers really work to resist acid rain."

***Josh Weirich:**

Nine-year-old Josh Weirich had been concerned about the effects of acid deposition for some time before he became aware of ALLARM and joined the group last summer. Now a rainfall monitor along with his mother Lissy, he has been collecting data not only for ALLARM, but also as a part of a project for the January 1988 local Science Fair. One conclusion was that rainfall amount and stream acidity were only proportional when rain fell several days in a row or when the ground was covered with snow for several days. "I think that when the ground got too saturated, the water in the stream could not be neutralized".

***Scott Brumbaugh:**

"I am eight years old. I am in second grade in Hamilton Heights School. I am monitoring a stream near my house for a science fair project. I am studying it for 30 days to see what happens to the pH when it rains. Although I'm not finished yet, my results show that the pH drops .5 when it rains and it takes about 6 days to get back to normal."

NAME THE ALLARM NEWSLETTER

Special thanks to Jane Scott and Clark Meader for the catchy and appropriate newsletter title, Stream of Consciousness.

TESTING HINT

by Maria Erwin

If you are confused by the directions given within the alkalinity test kit, a previous volunteer, Warren Raab, has suggested this better procedure:

1. Pour 10ml of water sample into a clean beaker.
2. Add 3 drops of alkalinity reagent #1 while swirling to mix.
 - if sample turns red, the alkalinity is zero and no additional testing is required.
 - if sample turns green, alkalinity is present and proceed to step 3.
3. Add alkalinity reagent #2 dropwise until the sample turns red, swirling to mix after each drop. Record the number of drops required to reach the red endpoint.
4. Multiply the number of drops recorded in step 3, less one drop (to compensate for the reagent blank), by 5. This will yield the alkalinity in ppm of calcium carbonate.
5. If you use less than 4 drops of alkalinity reagent #2, it is recommended that you use a 25ml sample size, multiply the number of drops less one by 2 in order to obtain the alkalinity in ppm of calcium carbonate.

Thank you Mr. Raab for your helpful hint which should clear things up for those having problems with the alkalinity test.

CONTRIBUTIONS

Special thanks to the following for their generous contributions to ALLARM:

The Appalachian Audubon Society
Thomas Pringle
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Gerald Depew
J. Edward Wilson
Cumberland Valley Chapter of Trout Unlimited
Penns Woods Chapter of Trout Unlimited
Tri County Trout Club
Joe Formanek

Mark Bowser
John O'Conner
James Cisco
Father Jackson
Northeast Regional Conservation Committee of
the National Sierra Club
Allen J. Smith
Sierra Club, Moshannon Group
Barbara Hayes

ALLARM has also received a DER mini-grant for Chesapeake Bay programs. Five volunteers monitor pH, alkalinity, temperature, turbidity, DO, nitrates and phosphates at six different sites on the Conodoguinet. If you would like to join them, call the ALLARM office!

DID YOU KNOW...

by Maria Erwin

At ground-level, ozone is a serious pollutant that damages forests and some crops, yet ozone in the upper atmosphere shields the earth against the sun's ultraviolet rays.

According to the Vermont Maple Sugar Makers Association, the decline of maple sugar production from 1985-1986 in New York (26%), in Vermont (38%), and in parts of Canada (over 50%) is linked to acid rain.

Acid rain attacks trees by harming the protective waxy covering on leaves and by leaching nutrients, such as potassium, sugars, and amino acids, from the soil.

"Snow melts from the bottom, so lime sprinkled on top does not neutralize the acid until all the snow is melted" (New Scientist, June 4, 1987).

Concrete might be a better alternative to liming since it dissolves much more slowly, need not wait for total snow melt to begin neutralizing, and eliminates the shock to the ecosystem when lime is dumped into waterways.

Concrete eventually gets coated with aquatic vegetation hindering its deterioration, thus preventing neutralization of acidic waters.

Even Japan suffers from acid rain averaging between 4.4 and 5.3.

"In Sweden, 15,000 lakes have been adversely affected by acid deposition, 1,800 severely so. The degree of lake and river acidification has not changed since the 1970s, but soil acidification continues to increase" (AP Digest, Sept. 1987).

With over 45,000 miles of streams, Pennsylvania leads the nation in extent of river shorelines.

The moisture from "cloud water" washes vital nutrients out of needles of trees causing yellowing and die-back.

ACID SHOCK, in which snow melts into waterways releasing a large dose of acid to the aquatic environment, occurs in the months of February, March, April, and May.

"A 60% reduction in particulate and sulfate air pollution levels could yield a \$25 billion benefit from reduced illness and a \$5 billion to \$15 billion benefit in fewer air pollution related deaths" (National Clean Air Coalition).

ALLARM WORKSHOP

ALLARM plans to hold a spring workshop in May. This workshop provides a great opportunity to meet with fellow volunteers and learn more about current acid rain news and your organization. A lecture, ALLARM slideshow, and field testing are part of the fun. Watch the mail for more details.

PennARC UPDATE

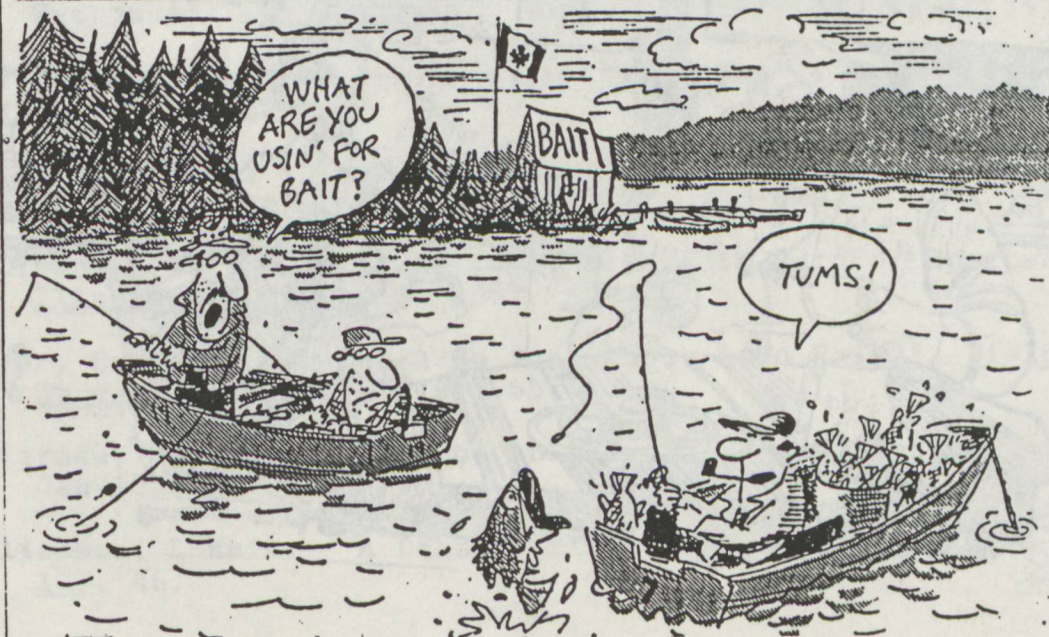
Congratulations volunteers! PennARC, a coalition of groups actively promoting acid rain control legislation, has designated ALLARM as a central repository for acid rain data.

PennARC is continuing to play a critical role in the battle for acid rain controls in Pennsylvania. It has now grown to include 39 organizations, representing more than 300,000 Pennsylvanians.

Would you enjoy learning the latest happenings in the acid rain legislative struggle while meeting others who share your concern about acid deposition? Then ALLARM needs you to serve as a **delegate** or an **alternate delegate** to PennARC. Interested? Contact the ALLARM Coordinator, Candie Wilderman, for more information.

PennARC is preparing to hold a raffle to raise funds for its continued operation. We will be sending ALLARM volunteers raffle tickets, and a list of prizes. Why not try your luck, by buying or selling the tickets you receive, and contributing to the cause of acid rain controls in Pennsylvania?

ACID RAIN MAY FORCE CHANGES IN FISHING TECHNIQUES

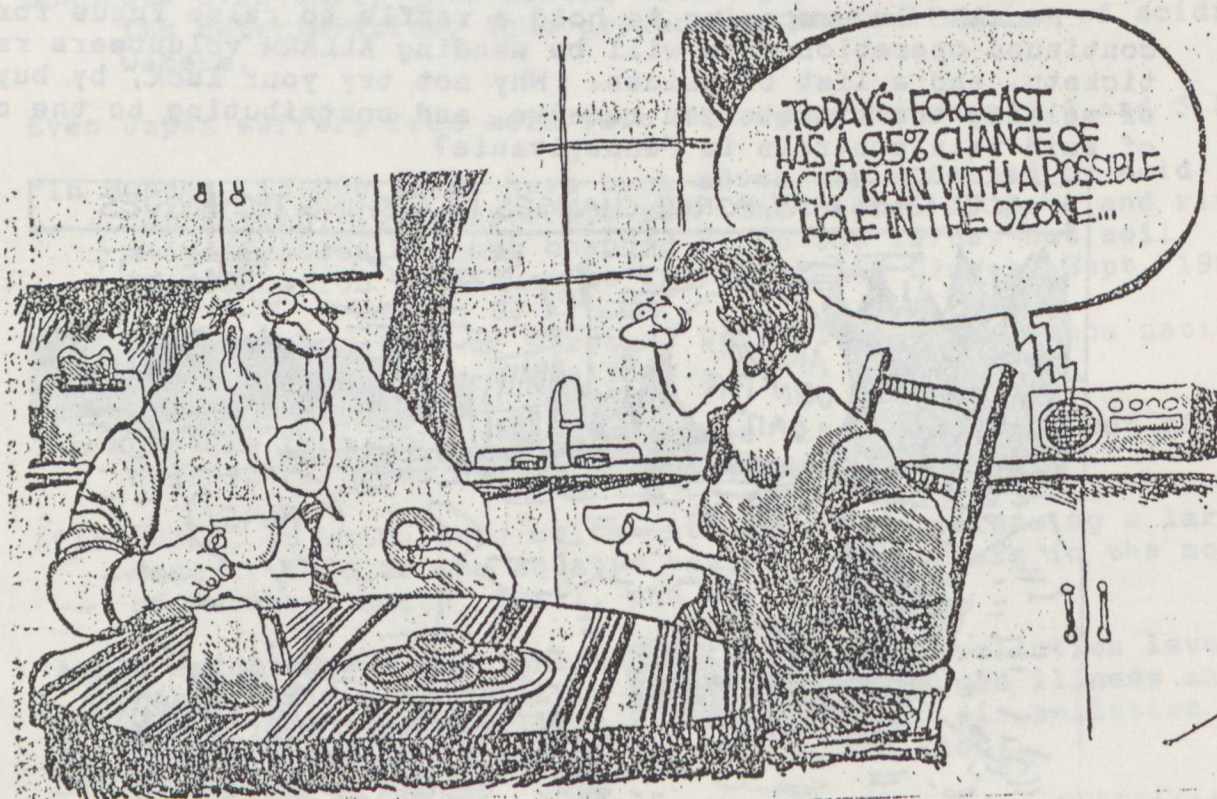


ALLARM IN THE NEWS

As ALLARM grows, so does the public interest in the acid rain issue and our organization. In fact, as a result of Candie Wilderman's article "Why be ALLARMed?" in the January issue of Pennsylvania Angler, over one hundred concerned citizens contacted ALLARM for information and to volunteer. ALLARM was also the subject of several news articles. We were featured in an article in The York Daily Record on 8/6/87, Lancaster Intelligencer on 9/23/87, The Sentinel on 10/17/87, and The Times Leader on 2/28/88. In television, Channel 27 News interviewed Dr. Candie Wilderman. Also, a five part series of radio blips about ALLARM occurred October 5 through 9, 1987 on the Dickinson College News Network.

ALLARM SLIDESHOW

ALLARM has produced a 25 minute slide show on the causes, nature and effects of acid rain. Do you know of any groups who might be interested in borrowing, or even buying, our slide show covering such topics as aquatic, forest, crop, building, and health effects as well as the political aspect of acid deposition? Please contact us for further details!



RAIN GAUGES

Interested in monitoring the pH of rain? Rain gauges are now available through ALLARM for \$ 5.00 each. Several volunteers have already started faithfully measuring the amount and pH of rain. You too can help. Join us in documenting Pennsylvania's acid rain!

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