

# NWF study finds Pa. 'extremely vulnerable' to acid rain

WASHINGTON, D.C. — A study by the National Wildlife Federation has determined that 15 of the 26 states east of the Mississippi River are "extremely vulnerable" to the harmful effects of acid rain. Another ten states are "moderately vulnerable," according to the conservation group, and one — Florida — is only "slightly vulnerable."

The ratings are contained in a report by NWF researchers who studied each state's rainfall acidity, geology, soils, and water chemistry to estimate the potential for acid rain damage to fisheries, soils, crop foliage, and marble and limestone structures within the states.

Acid rain forms when sulfur and nitrogen oxide emissions, mainly generated by coal-burning power plants, combine with rain or snow. The acid is often blown hundreds of miles from its actual source before it falls to earth. More than 90 lakes in the Adirondack Mountains are now fishless because acidic conditions have inhibited reproduction.

The NWF study listed Connecticut, Kentucky, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, West Virginia,

and Wisconsin as the states that are extremely vulnerable to damage from acid precipitation. Those states found to be moderately vulnerable are Alabama, Delaware, Georgia, Illinois, Indiana, Maryland, Mississippi, Ohio, Tennessee, and Virginia. Louisiana could not be fully evaluated due to a lack of data.

Massachusetts had the strongest acid rain and Florida the least acid of the 26 states studied.

In addition to analyzing vulnerability, the study evaluated each state's visibility impairment — as indicated by sulfate and nitrogen oxide concentrations found in the air.

Twenty states were found to have a high degree of visibility impairment, while five — Florida, Georgia, North Carolina, South Carolina, and Vermont — had a moderate degree of impairment. Only Maine and New Hampshire got low visibility impairment evaluations.

Both the fisheries resources and soil of eleven states — Connecticut, Maine, Massachusetts, Michigan, New Hampshire, New York, North Carolina, Pennsylvania, Rhode Island, Vermont, and Wisconsin —

were found to be extremely vulnerable to acid rain's effects. Foliage of such crops as alfalfa, tobacco, lettuce, potatoes, and soybeans was evaluated as being either vulnerable or non-vulnerable.

NWF researchers also compiled data on reports of auto paint damage due to acid rain in each of the states. They found that Florida, New Jersey, New York, and Pennsylvania had the highest incidents of reported damage by acid rain corrosion last year.

"Our study should lay to rest once and for all the claim that acid rain damage is confined to a few hundred lakes in upstate New York," said NWF executive vice president Jay D. Hair.

Hair noted that the NWF study confirms the conclusions of a recently released National Academy of Sciences report. The NAS found evidence of acid rain's "serious hazard to human health and the biosphere" to be so "clear" as to make continued emissions of sulfur and nitrogen oxides at present levels "extremely risky from a long-term economic standpoint as well as from the standpoint of biosphere protection."

"When Congress considers reauthorization of the Clean Air Act," Hair emphasized, "It is vital that our legislators take action to curb the causes of acid rain, with strict controls on sulfur dioxide

emissions from coal-burning power plants in the eastern U.S. With states as far south as Florida showing signs of vulnerability to acid rain, it can't be long before every state in the Union is affected."

## EVALUATION OF EASTERN STATES' VULNERABILITY TO EFFECTS OF ACID RAIN

STATE	AVERAGE pH OF RAINFALL (see below)	FISHERIES	SOIL	CROP FOLIAGE	MASONRY (MARBLE, LIMESTONE)	OVERALL RANKING
Delaware	4.4	M	M	V	M	M
Maryland	4.3	M	M	V	M	M
New Jersey	4.3	E	M	V	M	E
New York	4.2	E	E	V	M	E
Ohio	4.2	S	M	V	M	M
Pennsylvania	4.2	E	E	V	M	E
Virginia	4.4	M	M	V	M	M
West Virginia	4.3	M	E	V	M	E

E—Extremely vulnerable to acid rain effects

M—Moderately vulnerable to acid rain effects

S—Slightly vulnerable to acid rain effects

V—Vulnerable to acid rain effects

NV—Not vulnerable to acid rain effects

XX—Insufficient data

The pH is a numerical value used to describe the strength of an acid. On the pH scale, which ranges from a numerical value of 0 to 14, the lower the pH number the greater the acidity. A value of pH 1 is very acid (battery acid), 2.0 is equal to lemon juice, and 3.0 to vinegar. "Pure" rain has a pH of 5.6, pH 7 is neutral (distilled water) and pH 13 is very alkaline (lye). Most fish species die in water with a pH of 4.5 to 5.0.



Machine Work  
Welding &  
Farm Supplies  
Hardware

### D.S. MACHINE SHOP DAVID E. STOLTZFUS

3816 E. Newport Road  
Gordonville, PA 17529  
1 Mile East of Intercourse on Rt. 772  
Write or Call: 717-768-8569  
If no answer call: 717-768-3568

### CUSTOM BUILT WOOD & COAL FIRED BOILERS MADE TO YOUR SPECIFICATIONS

- Welders & cutting torches
- Custom made farm gates, etc.
- Custom built high pressure washers
- Stainless steel welding milker equipment, etc.

## ALASKA KODIAK WOODSTOVES

Woodstove Heat  
By the people who know cold.

### Fireplace Insert



Convert your existing fireplace to efficient woodstove heat today!

Easily fits your existing fireplace! Comes complete with blower for even greater efficiency! Your choice of two sizes... large size heats up to 2500 sq. ft.

### CHESTER B. NOLT

30 S. Hershey Ave. (Bareville) Leola, Pa. 17540

PHONE (717) 656-6898

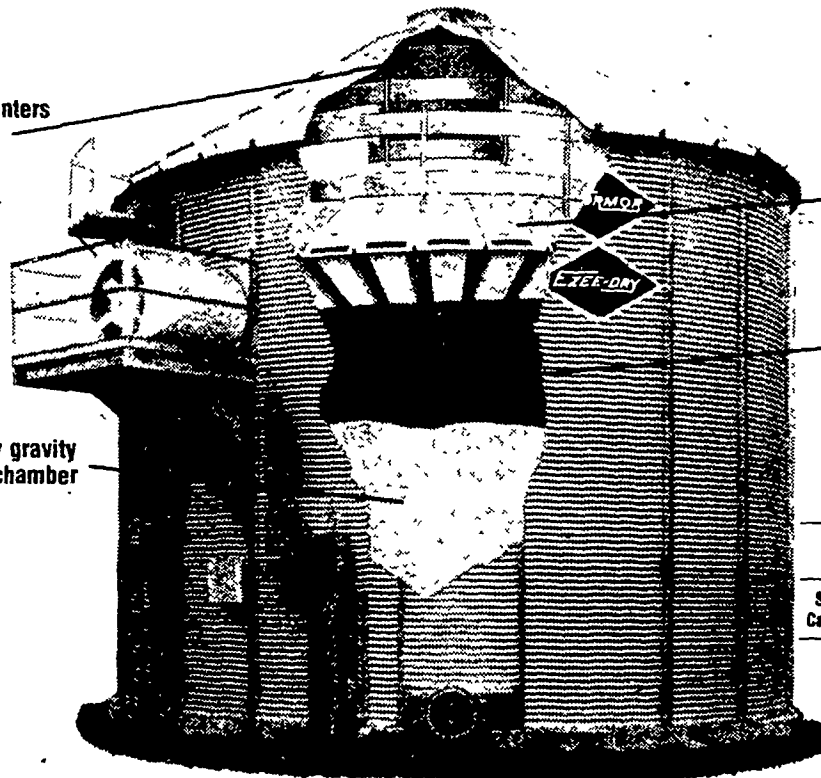
Hours: Mon. & Tues. By Appointment  
Wed., Thurs., Fri. 10 to 8; Sat. 10 to 4

## "TOP OF THE LINE DRYER"

**HIGH EFFICIENCY**  
**LOW HORSEPOWER REQUIREMENT**  
**HIGH SPEED DRYING**  
**LOW TEMPERATURE DRYING (120-180°F)**  
**HIGH GRAIN QUALITY**  
**LOW MAINTENANCE**

**BOTTOM LINE: EZEE-DRY**

Wet grain enters top of bin.



Grain is dried in overhead drying floor through thin grain column.

Heat from cooling grain is re-cycled to assist in drying; using all available heat.

Grain falls by gravity into cooling chamber below.

	Batch System	Continuous Flow System
Drying Rates	175-454 bu./hr.	400-1000 bu./hr.
Storage Capacities	5,575-22,780 bu.	10,128-22,780 bu.



FUQUA

U.S. Patents 3,479,748 and 3,501,845 Foreign Patents Pending

## LOUCKS GRAIN EQUIP. INC.

RD #12, York, PA  
717-755-2868