PA COUNCIL OF TROUT UNLIMITED
POLICY ON ACID & MERCURY DEPOSITION
SEPTEMBER 2007

It is widely recognized in the scientific community that both wet and dry acid depositions result from sulfur dioxide (SO_2), carbon dioxides (CO_2), mercury (Hg), and nitrogen oxides (NO_x) emissions, and it is further recognized that over 90 percent of such emissions are man-made. It is well known that all areas of the United States are being negatively impacted by such deposition.

Although there has been some recent reduction in acid deposition in Pennsylvania and nationally since 1999, monitoring stations throughout Pennsylvania still reveal that the pH of precipitation (rain and snow) averages 4.1 - 4.4. This is many times more acidic than unpolluted precipitation. Pennsylvania produces in excess of 25% of its own acid deposition and is the second largest source of sulfur dioxide of all states.

The ability of a body of water to neutralize acid is called its buffering capacity. The buffering capacity is measured by a test called alkalinity and is expressed as parts per million (ppm) of calcium carbonate. Streams and lakes are considered vulnerable to acid deposition if base flow alkalinity values are 10 ppm or less. Using this criterion, there are many miles of wild, unstocked, poorly buffered trout streams in Pennsylvania that are susceptible to acid deposition. Additionally, about one-third of the 4480+ miles of stocked trout streams are vulnerable, as well as some lakes. Approximately 5% of Pennsylvania's streams are chronically acidified and about 35% are episodically acidified (U.S. EPA). These conditions have been recognized by many prestigious organizations, including the Acid Rain Foundation, Inc., Association for the Prevention of Air Pollution, Canadian Coalition on Acid Rain, Environmental Defense Fund, Audubon Society of America, National Clean Air Coalition, National Academy of Sciences, National Wildlife Federation, Sierra Club, Soil Conservation Society of America, Trout Unlimited and the Pennsylvania Fish and Boat Commission.

Pennsylvania Trout recognizes the degrading impact of acid deposition on all aquatic life in both cold and warm water habitats, as well as forests and crops. Our state fish, the eastern brook trout, is one of the most tolerant of chronic (persistent) acidic conditions. Therefore, other more sensitive coldwater species such as the mottled and slimy sculpins or certain sensitive aquatic macroinvertebrate taxa may be better indicators to judge these effects. However, all aquatic life can be devastated from just one episodic event.

Emissions from coal-fired power plants contain substantial quantities of mercury, which is then deposited into our environment. Mercury, which biomagnifies (accumulates) in fish tissue, has increased to the point where there is now a statewide public health advisory. There are an additional 77 specific water body advisories alerting anglers and their families to further limit their consumption of sport fish due to mercury contamination. A current list of consumption advisories can be found at www.fish.state.pa.us, or in the PFBC Regulations Handbook.

To protect our environment, PA Council of Trout Unlimited recommends the following:

1. Strongly support provisions of the 1990 Clean Air Act Amendments to reduce sulfur dioxide emissions by 10 million tons from 1980 levels, placing a cap on the annual SO_x emissions produced by utilities at 8.9 million tons by 2010.
2. Support provisions of the 1990 Clean Air Act Amendments to reduce NO_x emissions by 2 million tons from 1980 levels by 2010.

3. Advocate for long term research to develop new technologies that further reduce NO_x and SO_x with an ultimate goal of zero emissions.
4. Advocate for stronger mercury emission controls at coal-fired power plants. Support legislative or regulatory initiatives that would achieve the maximum reductions in the shortest amount of time.
5. Support research and participate in projects to remediate problems in acid and mercury impacted watersheds.