Nations has been working from the beginning to combine these and others into a global one.

As the networks grew, the perception of the problem continued to grow as well. Researchers at the Como Creek area in the Rocky Mountains near the Continental Divide found that the water pH there had dropped from 6 to 4.7 in twenty years. In the fall of 1979 the California Institute of Technology reported that readings in the Pasadena area had dropped from pH 7 to pH 4.4.

George Lake, Killarney Provincial Park, Ontario.

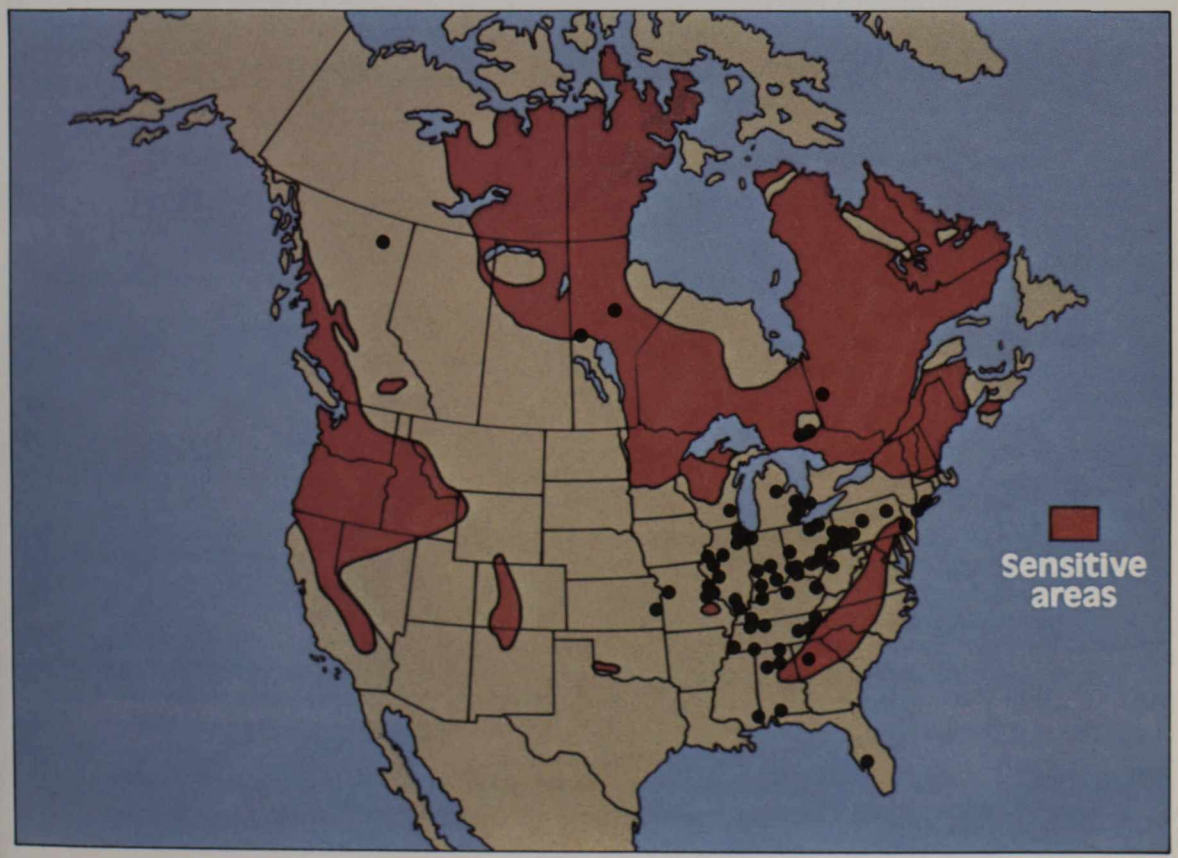
The Susceptible Lakes

Lakes get their water from the ground and from the sky. The rain can bring nutrients, which are usually good; and pesticides, metals such as lead, noxious chemicals and acids, which are bad.

Some lakes (including the Great Lakes) have pH levels of 7 or more and are not much affected by acid rain. These nestle in rocks such as limestone that are rich in carbonates which neutralize the acids that fall.

Unfortunately, many lakes in both the United States and Canada are in regions where thin layers of soil cover hard rock such as granite or basalt. The acid rains soon exhaust the limited amount of carbonate in the soil, and the lakes become increasingly acidic. The acidification process is generally made more lethal in the spring when the snows melt rapidly and the pH levels in the nearby lakes and streams drop abruptly.

The first victims as the acidity increases are usually the eggs of amphibians and fish. (The eggs of prized food fish such as trout are particularly susceptible.) As the waters grow more acidic, frogs die and bacteria disappear. Leaves and other plant litter that would ordinarily be decomposed by bacterial action pile up on the lake bottom,



The sections marked in red are low in natural buffers and are particularly susceptible to acidification. The dots indicate the areas having the heaviest concentration of SO_2 emissions, more than 100 kilotons per year.