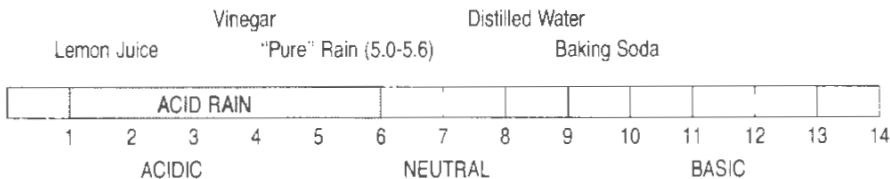


How "Acid" Is Acid Rain?



The pH scale ranges from 0 to 14. A value of 7.0 is neutral. Readings below 7.0 are acidic; readings above 7.0 are alkaline. The more pH decreases below 7.0, the more acidity increases.

Because the pH scale is logarithmic, there is a tenfold difference between one number and the one next to it. Therefore, a drop in pH from 6.0 to 5.0

represents a tenfold increase in acidity, while a drop from 6.0 to 4.0 represents a hundredfold increase.

All rain is slightly acidic. Only rain with a pH below 5.0-5.6 is considered "acid rain."

Adapted from: *Acid Rain: An EPA Journal Special Supplement, September 1986.*

"Trouble with the Rainbow: Acid Deposition in the National Parks" is the title of an article by Napier Shelton appearing in Winter 1988 issue of the nature quarterly, *Orion*. Replete with full color illustrations, the article describes research currently underway at such NPS sites as Shaver Hollow in Shenandoah NP and what acid deposition nationwide is doing to both the natural and cultural resources of the National Park System. It also describes a mathematical model called MAGIC (Model of Acidification of Groundwater in Catchments) developed by scientists at the University of Virginia. The model uses knowledge about certain important soil processes and can be used to estimate long-term chemical

changes that occur in soil, soil water, and surface waters. It has been usefully applied in research on the Rocky Mountain NP watershed, northeastern U.S. lakes, and at various sites in Great Britain, Norway, and elsewhere.

Assumptions and knowledge about the relations between atmospheric inputs, bedrock type, soil properties, and surface water chemistry are being tested and further refined in watershed studies like those in Shaver Hollow," Shelton writes. "What is learned will be one more foundation stone upon which to build a national strategy for dealing with air pollution and the acid rain it spawns."