

1.3.1.2 Ozone

Ozone is the most important long-range transported pollutant with respect to vegetation effects. Air masses carry ozone and its precursors over long distances and can affect crops and forests in rural areas remote from sources. As a specific example, ozone related crop injuries in southern Ontario have been reported associated with high ozone levels in air masses moving across Lake Erie. In the U.S., experimentally derived crop yield losses ranging from 2 to 56% (crop dependent) were equated with seasonal 7 hr/day mean ozone concentrations of 0.06 - 0.07 ppm. Yield losses in the various crops were as follows: kidney bean 2%, soybean 10%, peanut 14-17%, and lettuce 53-56%. Although direct effects of ozone have been documented on forest growth, an estimate of loss is difficult to calculate because of the limitations stated in the main report.

1.3.1.3 Acidic Deposition

Acidic deposition in the form of simulated rain has been demonstrated to induce a variety of direct and indirect effects on plants grown under greenhouse or semicontrolled conditions. Foliar injury, growth reductions, and growth stimulations have been found under these growing conditions following treatment with simulated acidic precipitation. However, visible foliar injury has not been documented in the field for vegetation exposed to ambient levels of acidic precipitation. The potential effects of acidic deposition on forest growth have been difficult to assess because of the complicating influence of other environmental and climatic factors. To date, there have been too few studies to establish a clear relationship on the interactions of acidic deposition/sulphur dioxide/ozone to reach a definitive conclusion on effects.

1.3.2 Effects on Terrestrial Wildlife

Direct effects of acidic deposition on terrestrial wildlife have not been reported and are not considered likely. Nevertheless, in some instances, indirect effects have been suggested through three possible mechanisms:

- 1) contamination by heavy metals mobilized by acidity;
- 2) reduction in nutritional value of browse or food source;
and
- 3) loss of browse species or impairment of habitats.

1.3.3 Effects on Soil

Soils vary widely with respect to their properties, support different vegetation communities, are subjected to different cultural