

SECTION 8NATURAL AND MATERIAL RESOURCES INVENTORY

8.1 INTRODUCTION

The objective of an economic evaluation of acidic deposition is to estimate the value of reduced adverse effects achieved by a given reduction in emissions. This objective is pursued in six steps:

1. Inventory: Identify the totality of the resource of interest.
2. Sensitivity: Divide the resource inventory into sensitivity classes.
3. Exposure: Subdivide each sensitivity class by the severity of some indicator of deposition.
4. Response: Measure the adverse response expected absent of mitigative measures, for each sensitivity-exposure subdivision.
5. Mitigation: Determine reduction in deposition resulting from mitigation measures and calculate the fraction of the adverse effects estimated in (4) that would be reduced.
6. Valuation: Estimate the value of the adverse effects reduced.

The long-range transport of air pollutants (LRTAP) inventory of resources potentially at risk includes aquatic, terrestrial, and man-made resources. In all cases, the inventories now available are incomplete and generally lacking in the detail needed for a benefit/cost evaluation. The aquatic inventory is limited to large streams and lakes, and does not include potentially affected fish populations or the many plants, insects and animals living in or adjacent to water bodies. The terrestrial ecosystem consists of two major components, agriculture and forestry. The inventory of each will be conducted separately. Only major crop values and production are surveyed for the agricultural inventory. The forest inventory differentiates only between major forest types and does not include any information on shrubs and grasses. The materials inventory is far from complete in that it does not include common construction materials, such as galvanized steel and chain link fence. It lacks detail in describing historic places, landmarks and parks, and is the least comprehensive of the three categories.

This LRTAP inventory of resources potentially at risk does not include all natural and man-made resources in eastern North America. Wherever data are available, the inventory is geographically selective by two important criteria: (1) sensitivity, and (2) deposition regime.