Initial setting: Livestock or poultry operation with high nutrient levels in manure, air quality problems, or issues with pathogens.

**D. Direct effect**

- **D.1** (-) Manure quantity
  - **I.1** (-) Energy used to transport manure
    - **C.1** (+) Increased farm profitability

- **D.2** (+) Animal nutrition
  - **I.3** (+) Air quality
    - **C.2** (+) Human health, domestic animal health, community well-being

- **D.3** (-) Odors, particulate matter, and greenhouse gas (GHG) emissions
  - **I.4** (-) Neighbor complaints
    - **C.3** (+) Quality of receiving waters, aquatic habitat, recreational opportunities

- **D.4** (-) Nutrients and pathogens excreted in the manure
  - **I.5** (-) Nutrients, salts, pathogens in surface and groundwater

**C. Associated effect**

- **C.1** (+) Increased farm profitability

**I. Indirect effect**

- **I.1** (-) Energy used to transport manure
  - **C.1** (+) Increased farm profitability

Notes: Effects are qualified with a plus (+) or minus (-). These symbols indicate only an increase (+) or a decrease (-) in the effect upon the resource, not whether the effect is beneficial or adverse.