



TR-89

An Economic Analysis of Erosion and Sediment Damage in the Duck Creek Watershed, Dickens County, Texas

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The Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500, established a national goal of eliminating the discharge of pollutants into the nation's waterways by 1985. As a step toward that goal an interim water quality standard of "fishable, swimmable waters nationwide" by July 1, 1983 was determined. Under section 208 of this law, each state was required to establish a "continuing planning process" to define controls for agricultural non-point sources of water pollution.

Section 208 calls for the development of state and area-wide water quality management plans. The plans are to include "a process to (i) identify if appropriate? agriculturally and silviculturally related non-point sources of pollution, including runoff from manure disposal areas, and from land used for livestock and crop production, and (ii) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources."

The water quality issue of concern in this study is fertilizer and pesticide residuals carried into waterways by sediment.

Since sediment is a potential transporter of pollutants, practices to control agricultural non-point source pollution would probably be aimed at reducing soil loss. Conservation and conservation related practices are, at present, considered the best technical practices to abate agricultural non-point source pollution.

This study examines the economic impact of various policies that could be used to reduce soil loss. Both regulatory and voluntary policies are considered. Economic impacts examined include: (a) impacts of the policies on farm income; (b) government costs associated with the policies, including administration costs; (c) off-site sediment damages that would be abated; and (d) social desirability of the policies.

The first section of the report describes the selected "Best Management Practices" and examines the on-farm economics of soil conservation. Then, the second section postulates various sediment damage control options and models the economic consequences, both to agricultural producers as a group? and to society of implementing them.

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