USGS

WATER RESOURCES RESEARCH GRANT PROPOSAL

Title: Phosphorus in Surface Runoff: Best Management Practices and Soil Dynamics

Duration: 9/1/97 to 8/31/00

Federal Funds Requested: $71,358

Non-Federal Funds Pledged: 197,434

Principal Investigators:

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Congressional District: Second

Statement of Critical Regional or State Water Problems:

Despite recent media attention on nitrates and pesticides in groundwater, phosphorus (P) in surface waters represents a significant threat to surface water quality. Several notable examples include sensitive water bodies in the Atlantic Coastal Plain, the Great Lakes, western Oregon, eastern Washington, and Florida. Recent water quality data for Kansas and the Great Plains indicates that nearly all surface water bodies are severely impacted by P as indicated by total P concentrations. The P in the surface waters comes primarily from surface runoff with a large majority of the runoff attributable to agricultural lands. A recent study of the Big Bull Creek watershed in eastern Kansas estimated that 80 to 95% of the P load came from nonpoint sources. Phosphorus contributes to eutrophication of surface water bodies and is characterized by frequent algal blooms, low dissolved oxygen concentrations, low species diversity, taste and odor problems, and impairment of recreational and navigational activities.