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From Dust Bowl to Mud Bowl: Sedimentation of Reservoirs and its Threat to Public Water Supplies

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Abstract:

The U.S. government made significant investments in building reservoirs for flood control, power generation, public water supply, and other uses in the 1950's and 60's. Unfortunately this investment is now threatened by accelerated erosion and sedimentation. While many of these reservoirs were built for a projected life of 150 to 200 years, it is now projected that for many, that life will be cut short by 50 to 100 years and the volume of water storage is being sharply reduced by sedimentation. In Kansas, these reservoirs represent the public water supplies for about two thirds of the population of Kansas. This critical water resources is now being threatened by sedimentation. This presentation will outline the strategy of the state of Kansas to address sedimentation of reservoirs and the threat to public water supplies. Some of the information and research challenges surrounding this issue include: 1) determining the major sources of sediment; 2) reservoir and watershed management to minimize sedimentation; and 3) the economic consequences of sedimentation and the costs of watershed protection and/or reservoir rehabilitation. Just as the Dust Bowl of the early 1900's had dramatic social, biological, and physical consequences and resulted in dramatic technological changes in land management, the 'Mud Bowl' resulting from the sedimentation of our reservoirs poses an even larger threat that also demands corrective action based on sound science and practical, affordable technologies.

Impact Statement:

We have published a series of white papers on the topic of sedimentation of reservoirs in Kansas and we have developed a written research strategy to address sedimentation issues. We are in the process of identifying resources and forming partnerships in support of implementation of our strategy. An interdisciplinary approach is called for.

Category: Other Water Resource Topics

Type of Presentation: Oral Presentation