



United States Department of Agriculture

USDA-ARS Hydraulic Engineering Research Unit Stillwater, OK



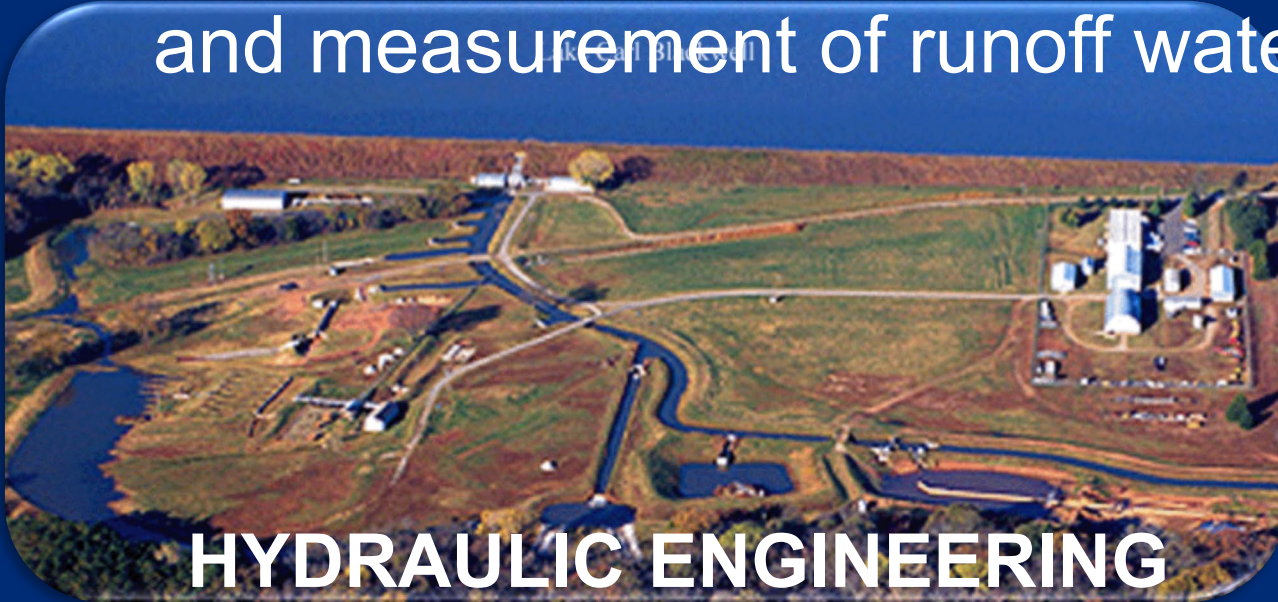
Sherry L. Hunt, PhD., Research Leader
Innovations in Hydraulic Engineering since 1940.



United States Department of Agriculture



MISSION: Develop criteria for the analysis and design of on-farm water structures and channels for the conveyance, storage, and measurement of runoff waters.



**HYDRAULIC ENGINEERING
RESEARCH UNIT**



United States Department of Agriculture

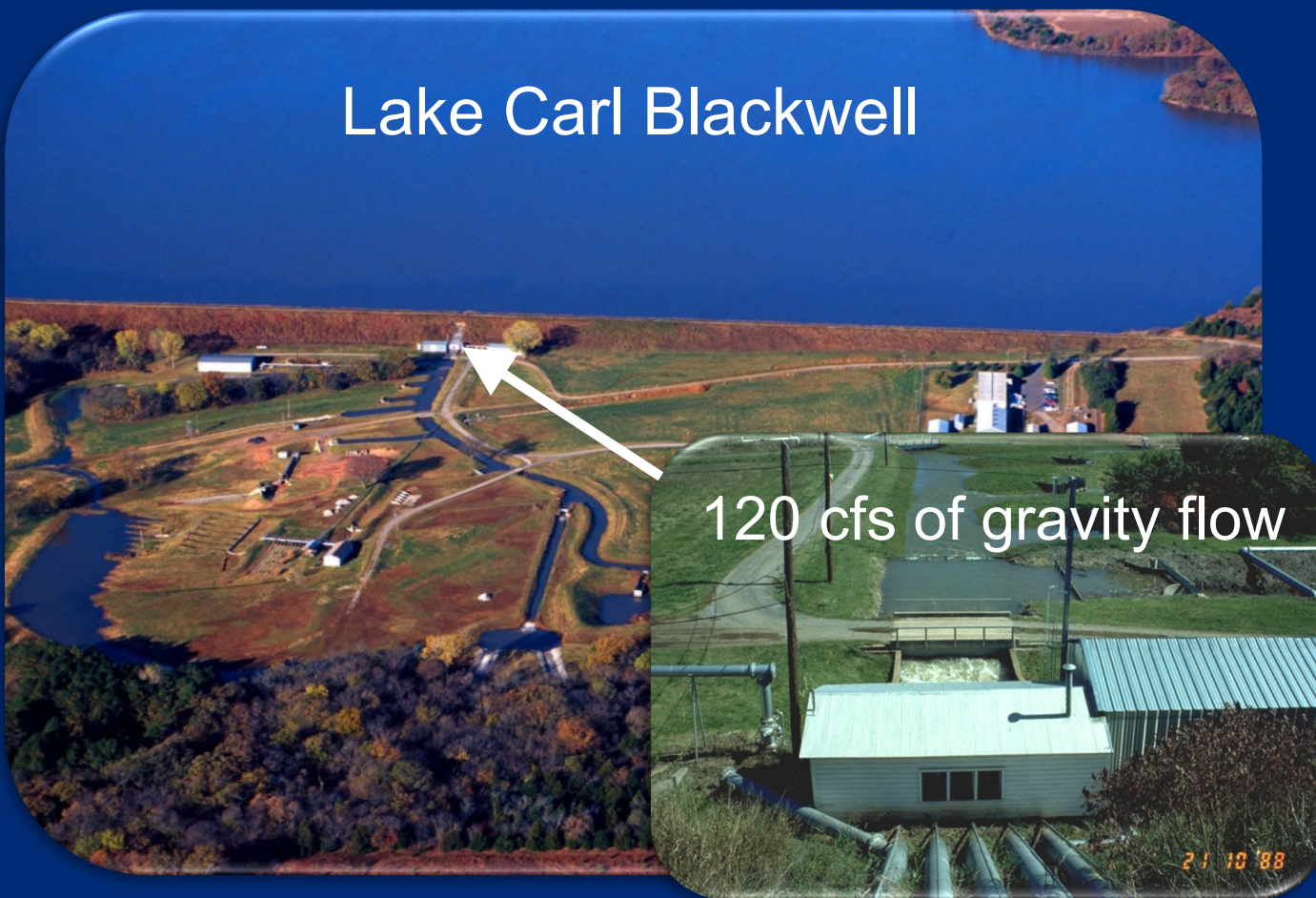
Agricultural Research Service

HERU

Hydraulic Engineering Research Unit



Lake Carl Blackwell



120 cfs of gravity flow

21 10 '88



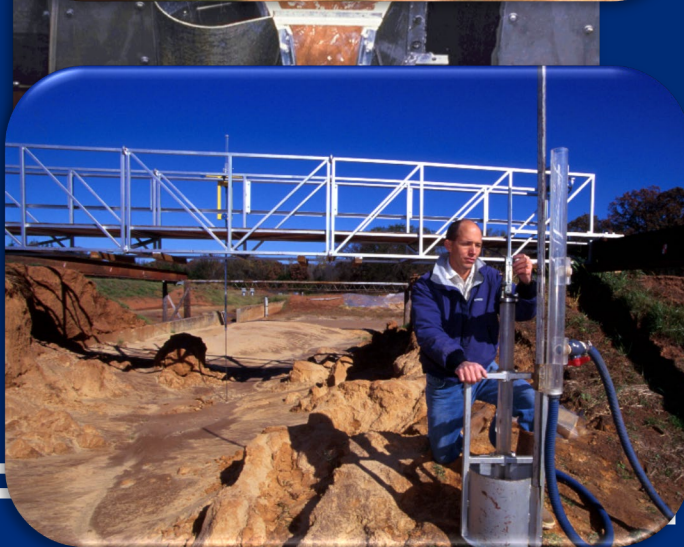
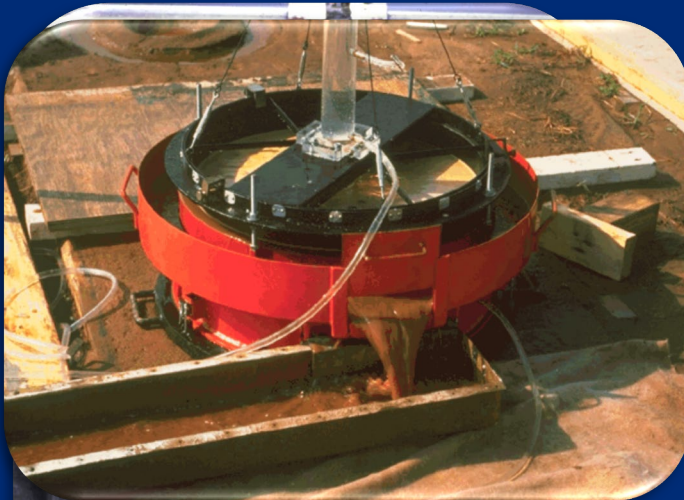
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**Design Concepts for Vegetated Waterways
Historic Landmark of Agricultural Engineering
Dedicated by American Society of
Agricultural and Biological Engineers in 1990**



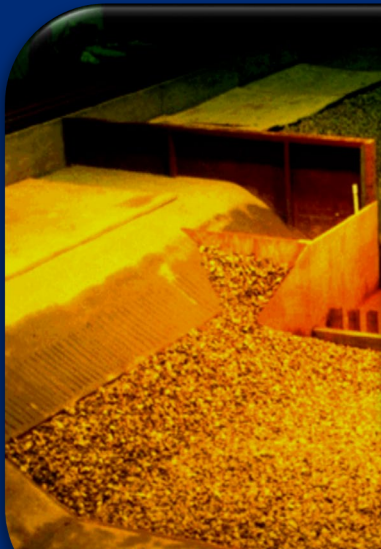
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Field & Engineering Tool
Floodability Device



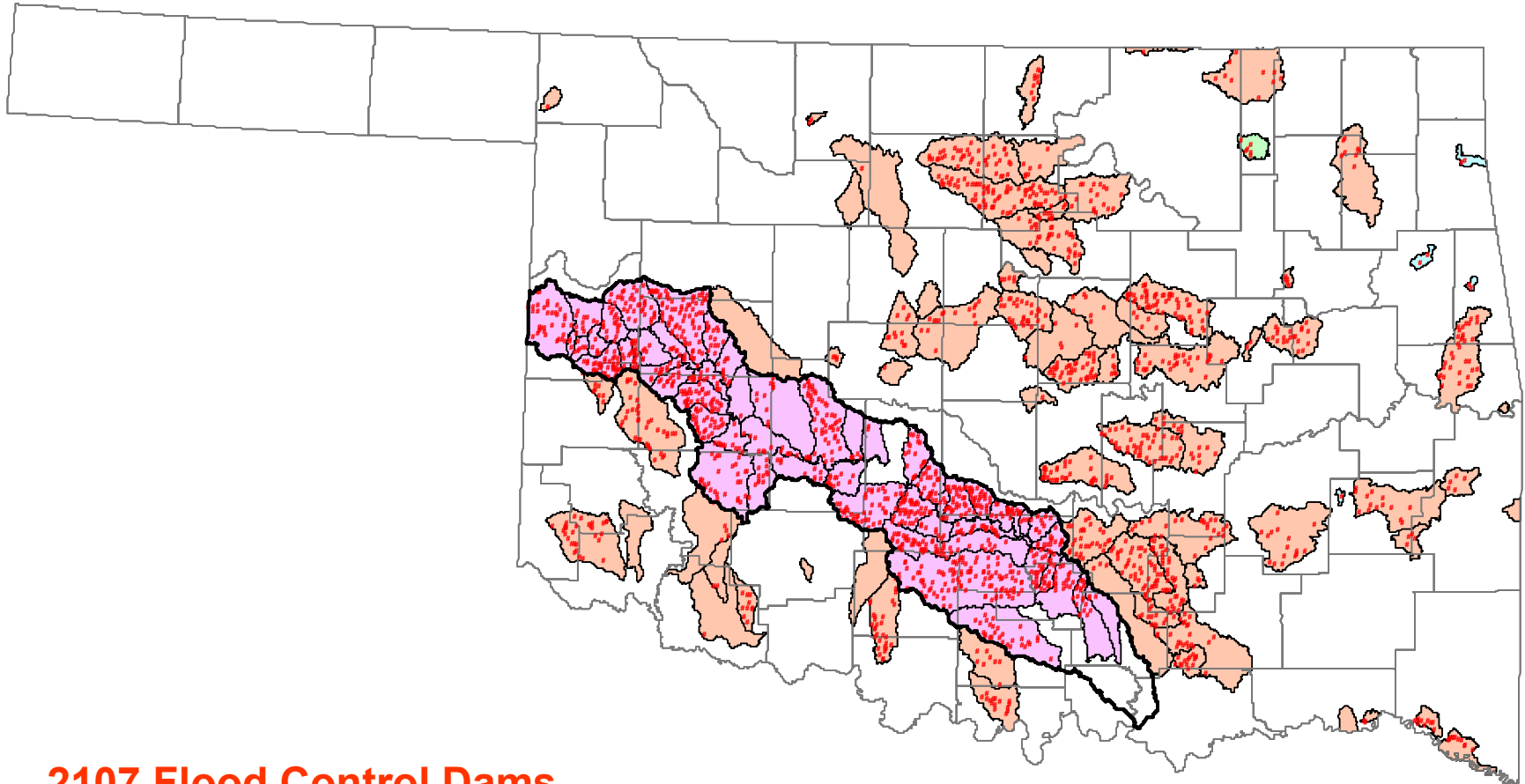
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MISSION: Expanded to include Hydraulic Structures.



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2107 Flood Control Dams

USDA Small Watershed Program



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USDA Small Watershed Program



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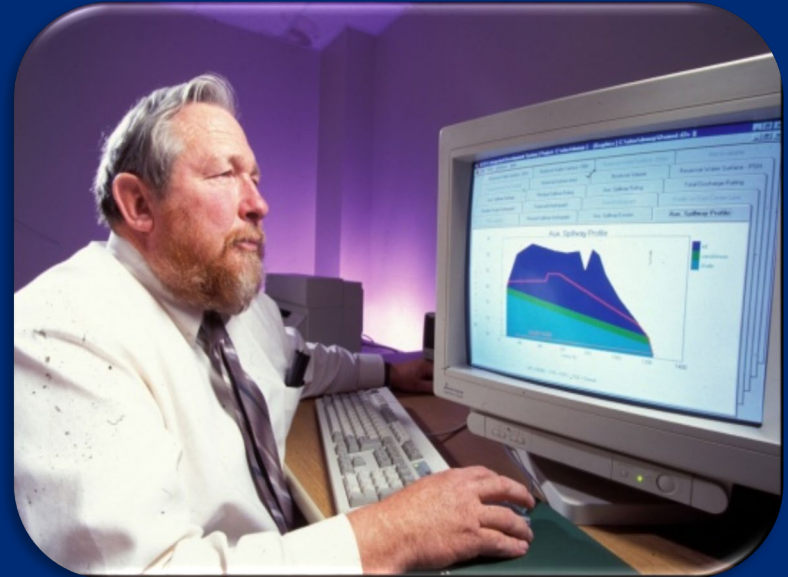
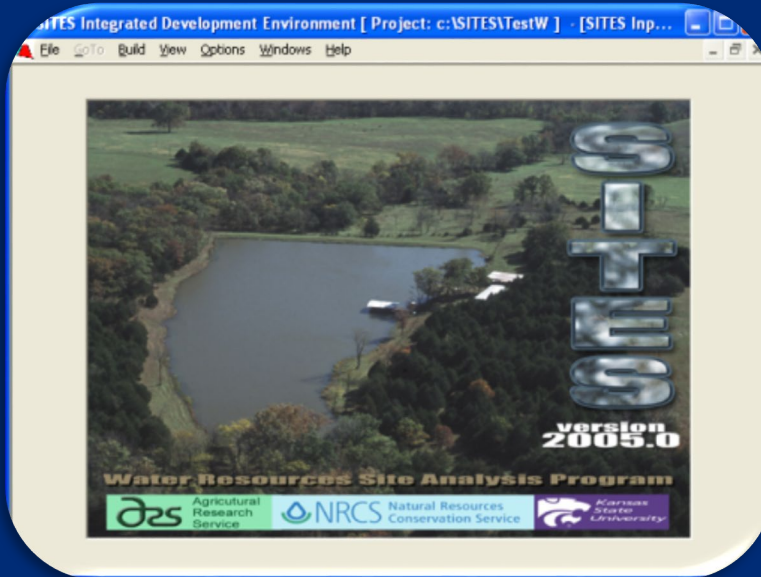
Auxiliary Spillway



USDA Small Watershed Program



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**SITES SOFTWARE in cooperation with
USDA-NRCS and Kansas State University**



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**The USDA Small Watershed Program
Historic Landmark of Agricultural Engineering
Dedicated by American Society of
Agricultural and Biological Engineers in 2011**



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Challenges:

- Competition for food, fiber and water
- Climate Change
- Aging infrastructure with structural deterioration and/or sedimentation
- Urbanization





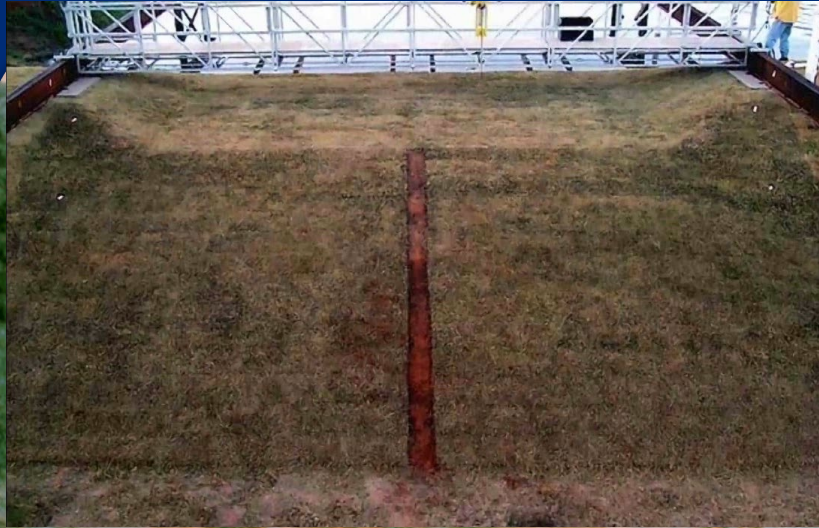
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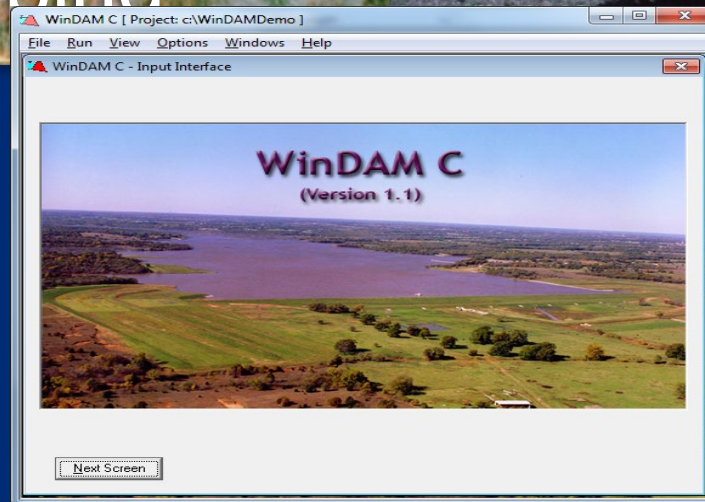
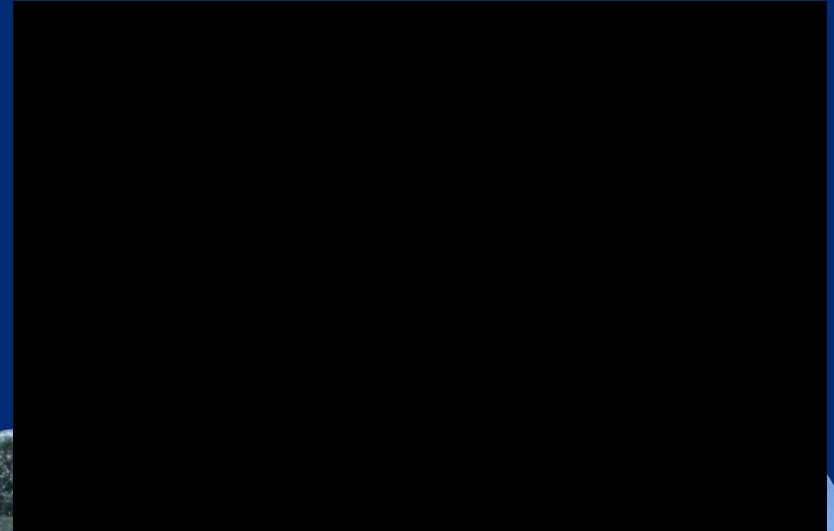
RCC Stepped Spillway Research



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Overtopping



al Erosion

Embankment Breach Research



\$2 BILLION
IN ANNUAL BENEFITS



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***Leading America towards a better future
through agricultural research and information.***

USDA is an equal opportunity provider and employer.