Using Composted Dairy Waste to Improve Eroded Soils and Restore Vegetation in Impacted Training Areas at Fort Hood, Texas

William E. Fox, III, Dennis W. Hoffman,

June E. Wolfe, III & Jason R. McAlister

Texas Agricultural Experiment Station

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FORT HOOD'S NEW WEAPON TO COMBAT SOIL EROSION

REVEGETATION OF TRAINING MANUVER AREAS THROUGH THE USE OF COMPOSTED DAIRY MANURE

COLLABORATORS

Directorate of Public Works

III CORPS & GARRISON COMMAND

ITAM Integrated Training Area Management

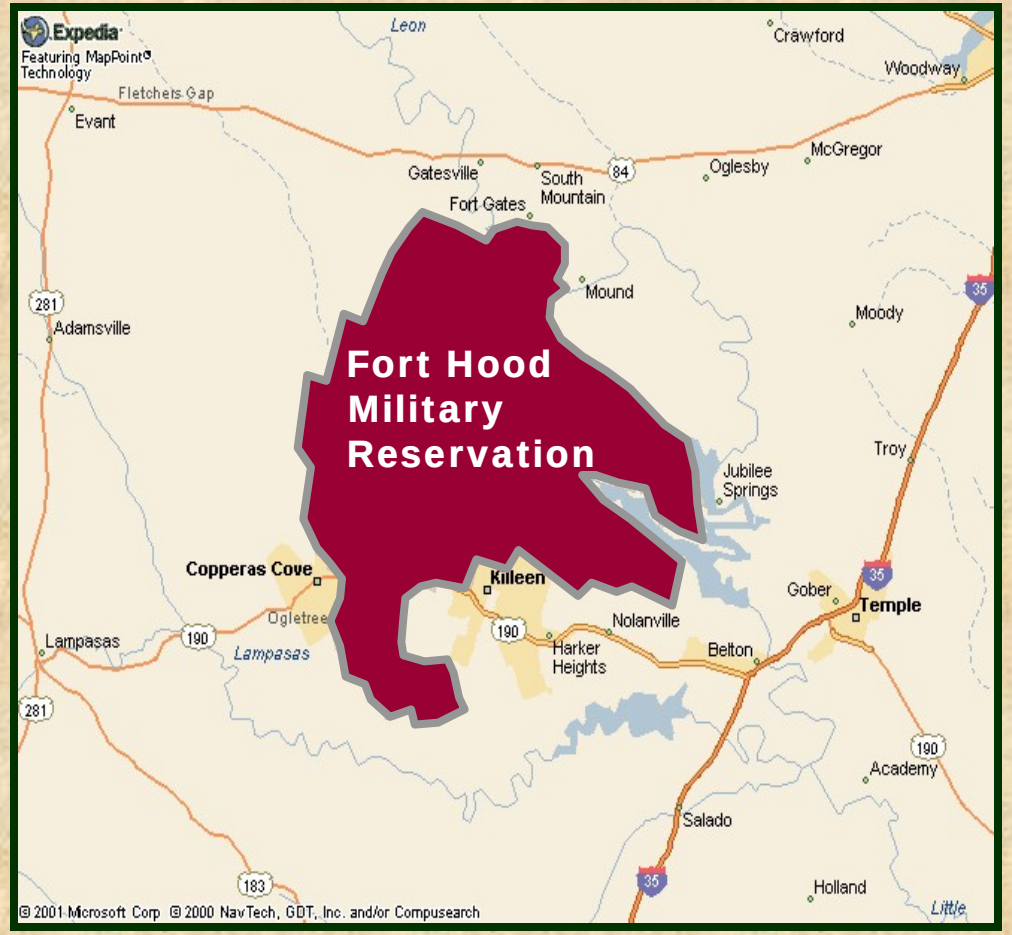
NRCS Natural Resources Conservation Service United States Department of Agriculture

Texas Water Resources Institute *make every drop count*

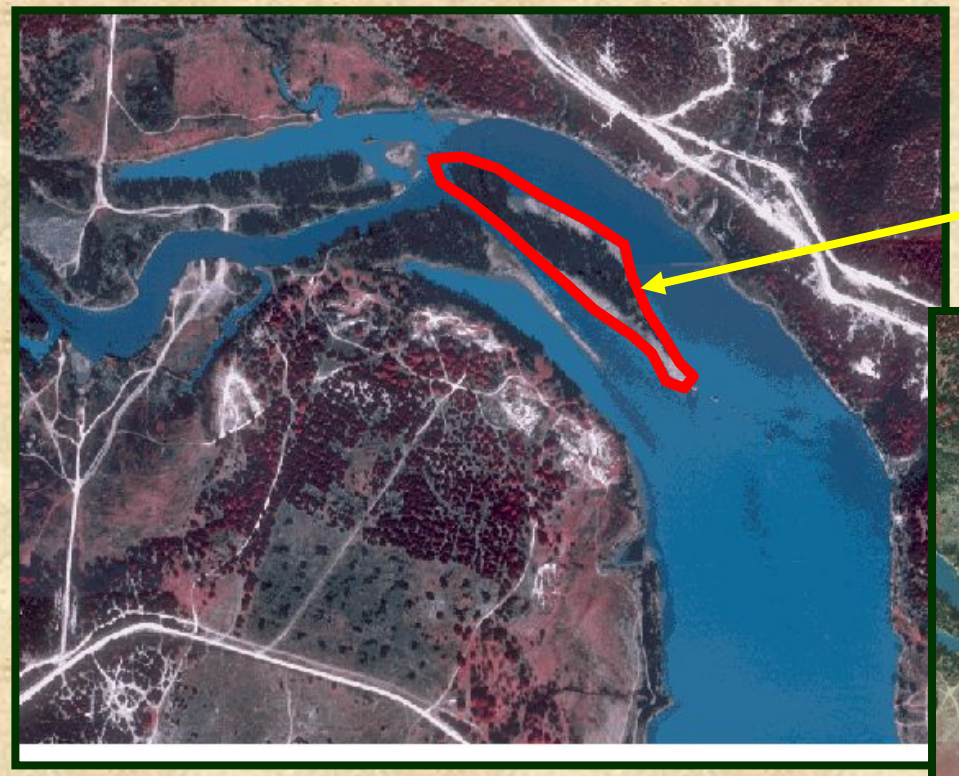
Texas Agricultural Experiment Station
The Texas A&M University System
Blackland Research & Extension Center
Temple, Texas

LOCATION

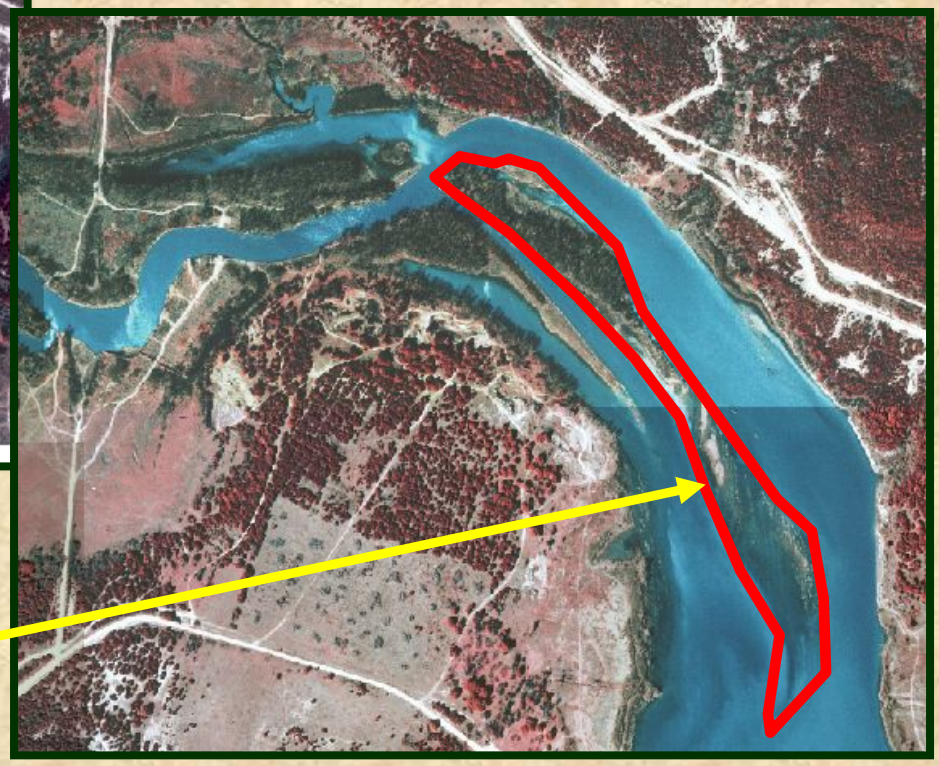
- **Northeastern edge of the Texas Hill Country (Edwards Plateau)**
- **Characterized by rolling hills, shallow soils, woodlands, prairies and rocky streams.**



ECOSYSTEM INDICATORS OF IMPACT



Delta formation on Cowhouse Creek, 1995



Delta formation on Cowhouse Creek, 1999

EROSION & IMPACTS ON TRAINING

WEST RANGE LANDSCAPE

ACTIONS

Project Managers

Dr. William Fox

Dr. Dennis Hoffman

COMPOST

- **One word = many meanings**

- **A product of the controlled microbial decomposition of almost any organic material**
  - **Stabilized**
  - **Reduced volume**
  - **Environmentally safe (no pathogens, weed seeds)**
  - **Odor free**

Compost Benefits Soils

- Adds nutrients
- Increases organic matter
- Improves CEC (nutrient cycling, retention, etc.)
- Improves structure
- Increases water holding capacity
- Stabilizes pH
- Assists in establishing and maintaining vegetation
- Aids in erosion control
- Reduces potential for runoff

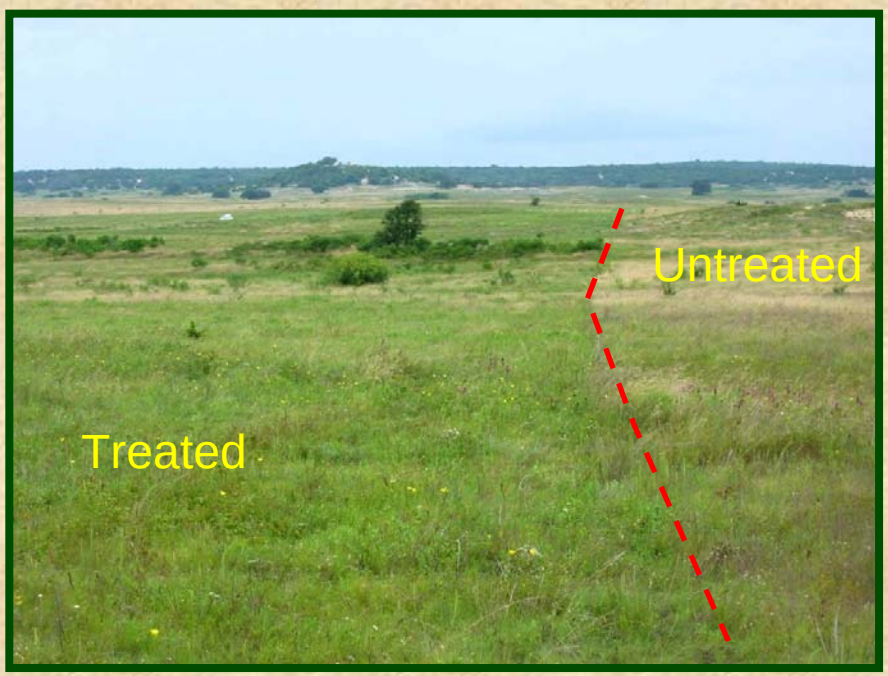
Rangeland Restoration

Fort Hood Training Facility

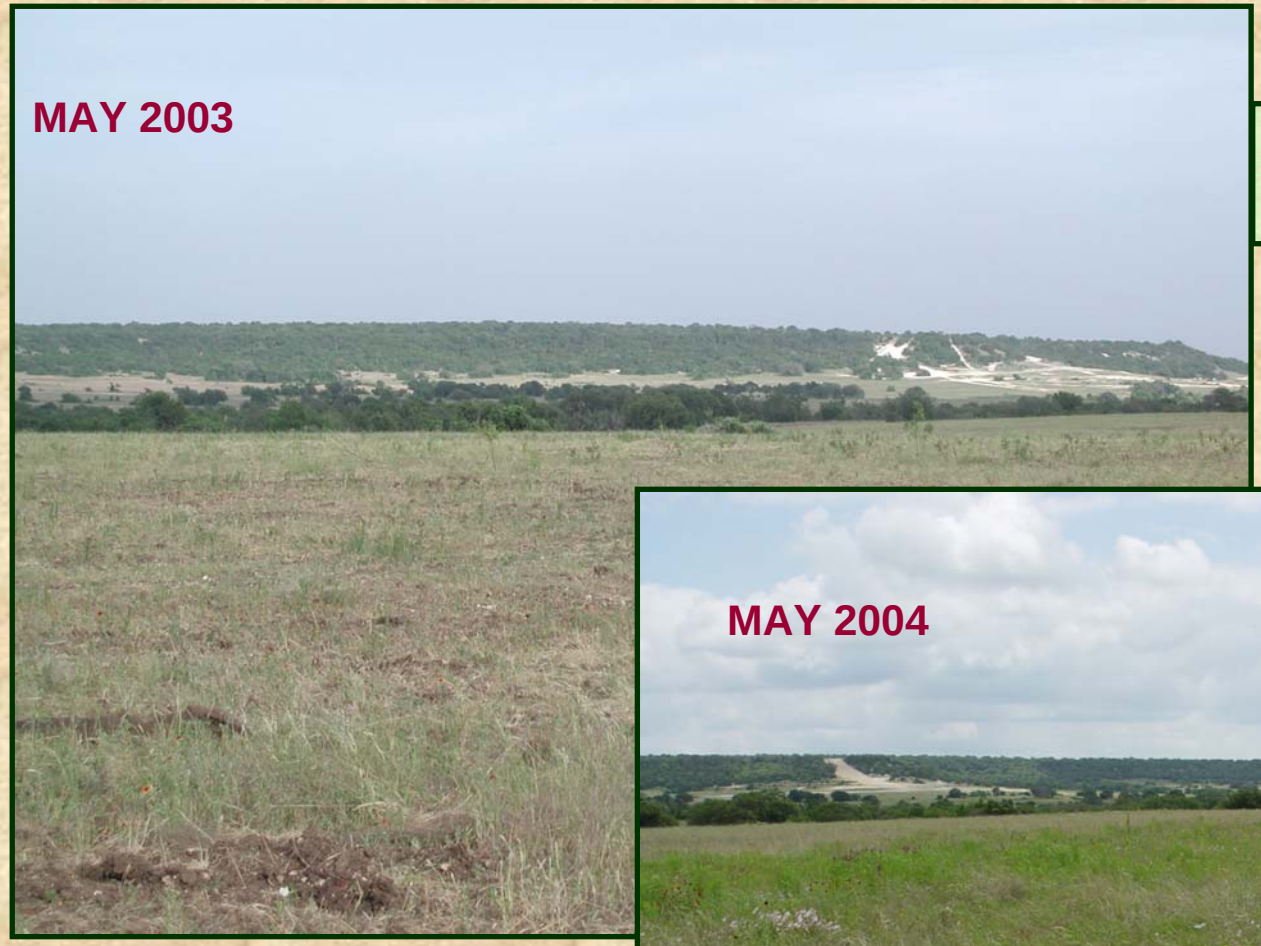
Due to terrain, application of compost is a challenge. TAES researchers have designed and are developing a compost spreader specifically for the challenges posed by the Fort Hood terrain.

Rangeland Restoration

Fort Hood Training Facility



Treated areas are visibly greener and vegetative cover has increased. Further, these areas have a higher population of desirable vegetation necessary in combating soil erosion.



Demonstration site post land preparation activities

Demonstration site 1-year after compost application

FUNDING

- **Funding for Rangeland Restoration Pilot Project provided through federal earmark and administered by:**

NRCS
Natural Resources
Conservation Service
United States Department of Agriculture

THANK YOU!