

## Watershed Management in West Tennessee

West Tennessee River Basin Authority  
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## WTRBA Background



## Amphibious Trackhoe Maintenance



## Flood Control Lakes Maintenance



## Restoration and Legislation

- Legislation 64-1-1101. (b) 2. Restore, where practicable, in a self-sustaining manner, natural stream and floodplain dynamics and associated environmental and economic benefits...
- Maintain and stabilize the function of altered streams and rivers for which the expectation of altered drainage is well established because of agricultural or other land uses...

## WTRBA Partnerships

- Residents of the State of Tennessee
- State Agencies – TDEC, TDA
- USDA – NRCS
- Nonprofits like The Nature Conservancy
- US Army Corps of Engineers
- Public and Private Educational Institutions
- Counties and Cities in West Tennessee

## Watershed Challenges - Debris



## Erosion - Headcuts



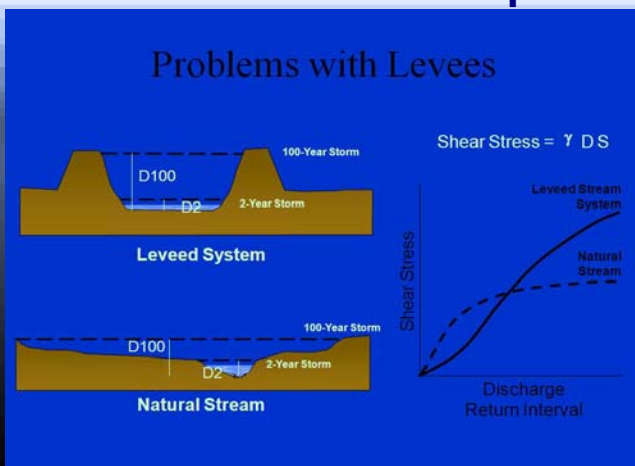
## Sedimentation



## Urban Impacts



## Levee – Loss of Floodplains



## Technical Challenges

- Regional Curves
- Design Storms
- Small Stream Gauging Data
- Sediment Transport Models
- Regulatory Challenges (Objectives and Outcomes of Restoration)

## Issues Addressed by WTRBA Projects

- Valley Plug Restoration – Dry Branch, Chester County
- Grade Control – Simmons Road, Tipton County
- Lake Rehab – Johns Creek, Gibson County
- Bank Stability – Sandy Creek, Madison County
- Urban Impacts – Headwater Streams, Jackson, TN

## Dry Branch Before/After



## Dry Branch 2007



## Dry Branch 2011



## Dry Branch 2012



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## Cole Creek Before/After



## Issues Addressed by WTRBA Projects

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- **Lake Rehab – Johns Creek, Gibson County**
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## Johns Creek Restoration



## Issues Addressed by WTRBA Projects

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- Lake Rehab – Johns Creek, Gibson County
- **Bank Stability – Sandy Creek, Madison County**
- **Urban Impacts – Headwater Streams, Jackson, TN**

## Sandy Creek - Before/After



## Our Challenges

- **Education – Partners, Public, WTRBA Knowledge Base**
- **Aging Watershed Infrastructure**
- **Data Collection and Results**
- **Streamlining Practices**

## QUESTIONS ?

- David C. Blackwood, PE

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