


**TEXAS
COLORADO RIVER
FLOODPLAIN
COALITION**

Texas Floodplain Management

Wes Birdwell, PE

August 29, 2019




Lower Colorado River Authority River Operations Manager

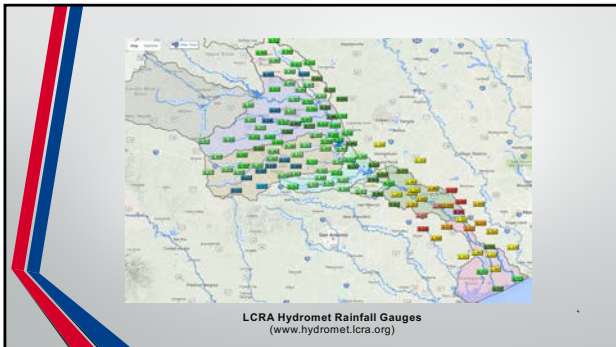


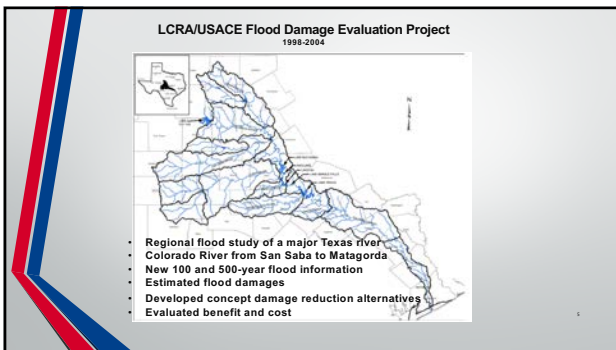
Buchanan Dam
Inks Dam
Wirtz Dam
Starcke Dam
Mansfield Dam
Tom Miller Dam

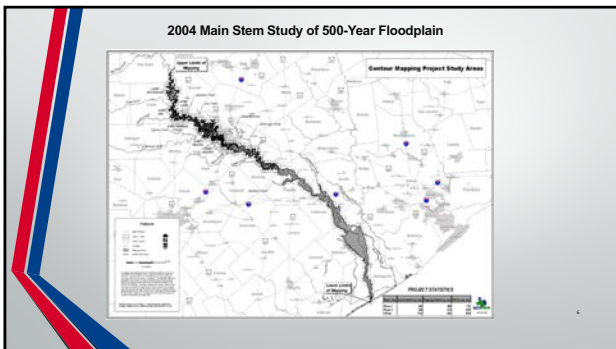
Lake Buchanan
Lake Inks
Lake LBJ
Lake Marble Falls
Lake Travis
Lake Austin

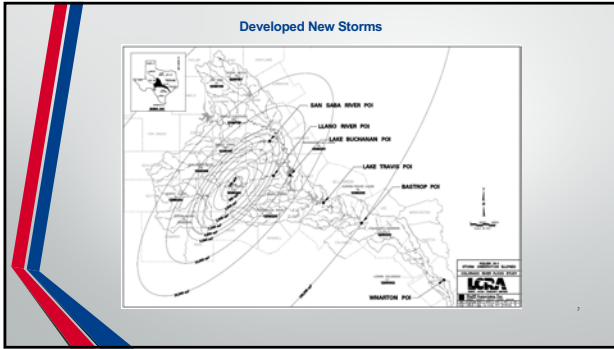


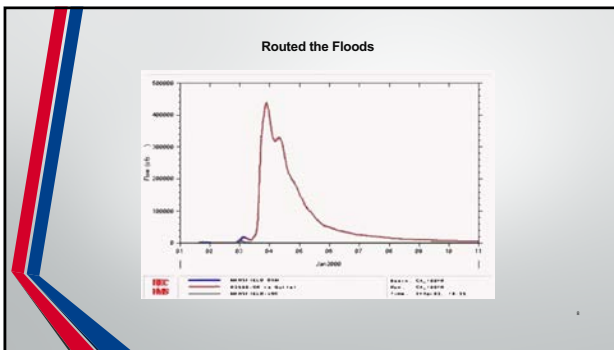
LCRA Hydromet Streamflow Gauges
(www.hydomet.lcra.org)

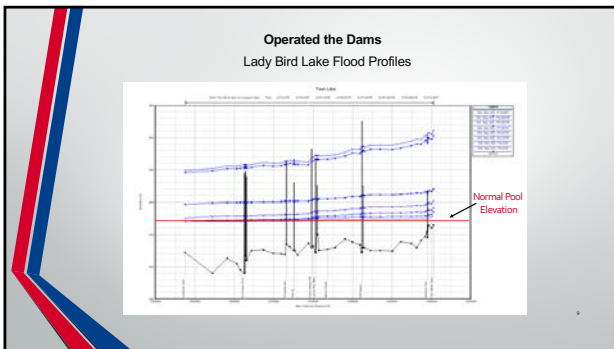


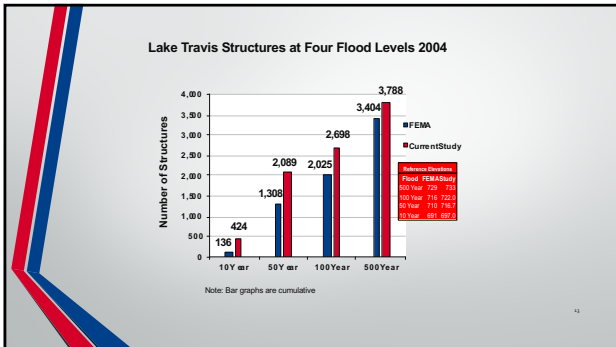













- ### Investigated Alternatives for Reducing Flood Damages
- Do nothing
 - Non-structural
 - Raise floodplain elevations and make insurance available
 - Buy and remove structures to reduce potential for damages
 - Modify Mansfield Dam operating rules for releasing floodwaters
 - Structural
 - Construct new reservoir(s) upstream of Mansfield Dam
 - Build levees
 - Build local detention
 - Increase stream channel
 - Combine one or more of the above

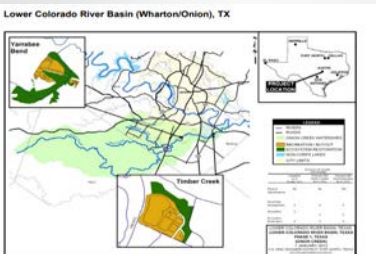
Results 20 years later.....



- Community buy-in of the new data
- New floodplain maps with new information
- Tributary studies in Llano, Burnet, Travis, Bastrop, Hays, Wharton and Matagorda counties, Tres Palacios and San Bernard River
- TWDB CTP studies for San Bernard and Colorado Cummins
- New 100% USACE federally funded levees for City of Wharton
- Millions % in local and federal buyouts along Onion Creek
- \$7M channelization in City of El Campo FEMA HMGP
- \$1M detention in City of Smithville FEMA HMGP
- Certified Matagorda ring levee and avoided certifying river levees

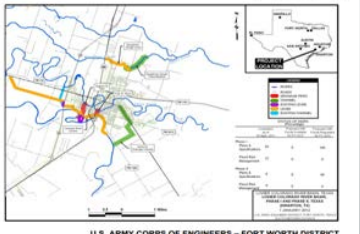
14

**USACE Lower Colorado River Projects
Onion Creek Buyouts**



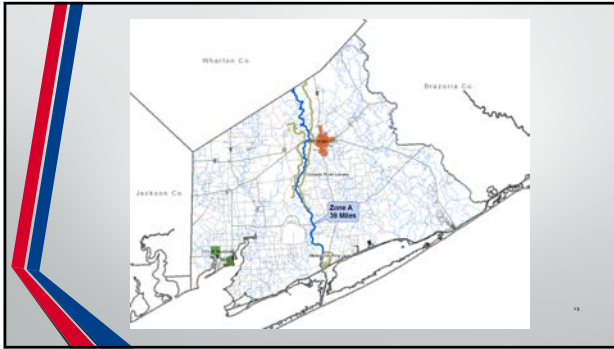
17

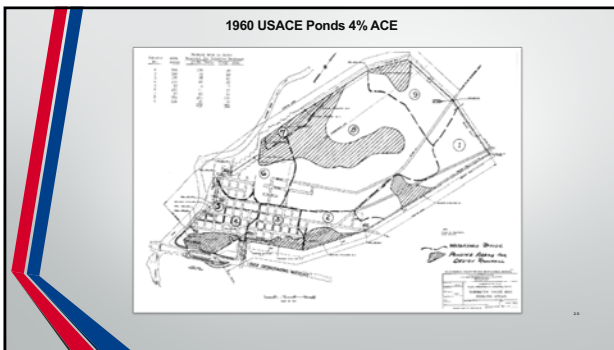
**USACE Lower Colorado River Projects
City of Wharton Levee System**

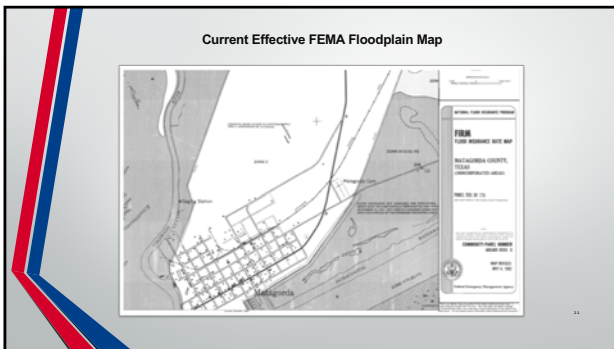


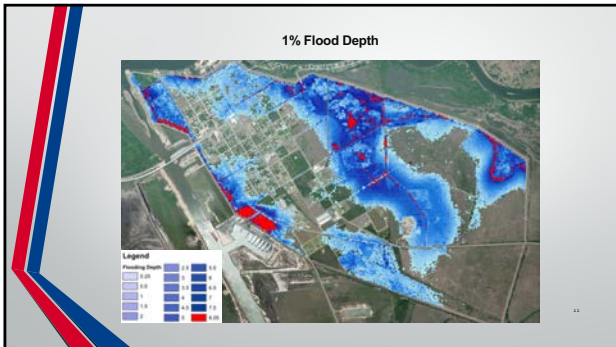
U.S. ARMY CORPS OF ENGINEERS – FORT WORTH DISTRICT
www.uscf.usace.army.mil

18









TWDB State Flood Assessment

- Charts a path to flood resilience:
 - Mapping
 - Planning
 - Mitigation
- Consider 4 types of flood:
 - Coastal
 - Riverine
 - Structural
 - Urban

TEXAS RIVER BASINS

What is our Desired Quality of Mapping?


- Tier 0 – Unmapped Miles
- Tier 1 – Not Digital
- Tier 2 – Digital but not based on LIDAR and/or not model backed
- Tier 3 – Digital, LIDAR and model backed
- Tier 4 – Considers future conditions

CNRS FY19-22 STUDY LINES TIER

- TIER 0
- TIER 1
- TIER 2
- TIER 3
- TIER 4

Wes' Watershed Flood Plans: Potential Mapping Goals

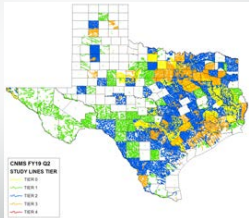
- Urban and Rural Areas:
 - Tier 3 – Digital, LIDAR and model backed
- Urbanizing Areas:
 - Tier 4 – Considers future conditions
 - Tier 5 – 2-Dim?



Estimate of Current status:

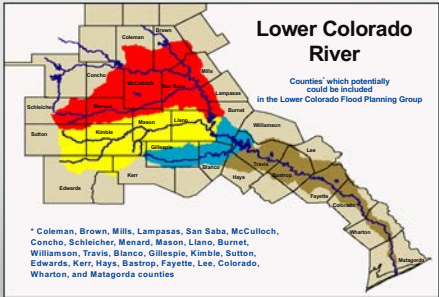
- Coastal: Tier 3 90%
- Riverine: Tier 0, 1, 2, 3, 4 10%
- Structural: Tier 0, 1, 2, 3 25%
- Urban: Tier 0, 1, 2, 3, 4 1%

- Tier 0 – Unmapped Miles
- Tier 1 – Not Digital
- Tier 2 – Digital but not based on LIDAR and/or not model backed
- Tier 3 – Digital, LIDAR and model backed
- Tier 4 – Considers future conditions



Lower Colorado River

Counties* which potentially could be included in the Lower Colorado Flood Planning Group



* Coleman, Brown, Mills, Lampasas, San Saba, McCulloch, Concho, Schleicher, Menard, Mason, Llano, Burnet, Williamson, Travis, Blanco, Gillespie, Kimble, Sutton, Edwards, Kerr, Hays, Bastrop, Fayette, Lee, Colorado, Wharton, and Matagorda counties

