

















The case for bat friendly bridges



Why Bats in Bridges?

- TxDOT is credited with beginning the Bats and Bridges Program in US
 - Mark Bloschock, engineer
- TxDOT Vision Statement ...enabling economic opportunity...
 - Congress Ave Bridge (AUS) direct effect \$3.2 million in tourism
 - Waugh Bridge viewing platform (HOU)
 - Private bat watching locations generated \$5.4 million 2011
 - Insect control
 - Consume 2 million pounds of insect/night
- TxDOT Goal Foster Stewardship protect natural resources





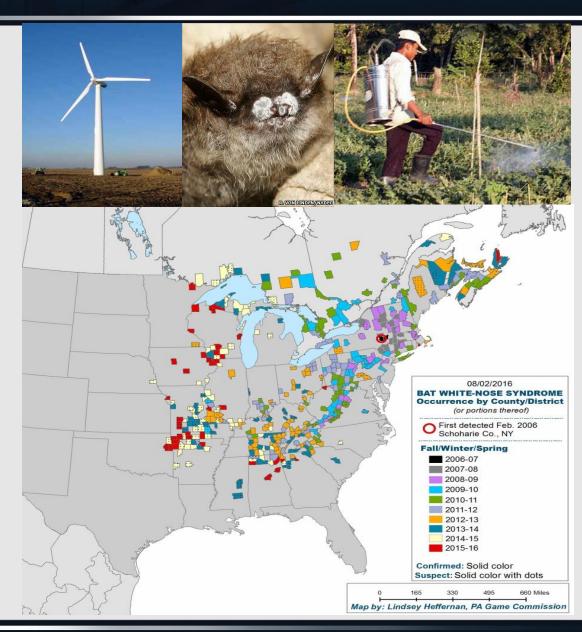
Conservation

- Benefits of wildlife habitat programs
 - Improved employee morale
 - Improved relationships with environmental groups, regulatory agencies, and community
 - Regulatory flexibility
 - Reduced permitting time = cost savings
- On site mitigation of impacts
- Positive



Bats are Under Threat

- Habitat Destruction
 - Vandalism of caves
 - Pesticides
 - Urbanization
- Disease White-nosed Syndrome (WNS)
 - 90 -100% mortality
 - 4 species affected by WNS migrate to Texas
 - TPWD WNS Survey/Monitor
- Texas Conservation Action Plan
 - Transportation destroys habitat
- Bridges and Culverts Opportunity



Bridges

- 20 different species may use bridges
- 2,620 bridges possible bat friendly design (4.8%)
 - Concrete box girder Multiple, single, or spread
 - Pre-stressed box girder Multiple, single or spread
 - Pre-stressed concrete slab full depth
- Habitat opportunities for 25 million bats



Artificial Structures

- Waco District
 - Lampasas and Salado Bridges I-35
 - Population estimated 5,000 and 10,000 bats/bridge
 - Replace lost habitat
 - \$1,000/box
 - Bats are using boxes
- Laredo District
 - US 83 bat dome culvert
 - 2 foot high 10 foot wide
 - Environmental Achievement Award



Bats Removable

- Bats change roosts
- Migratory
- Tarkington Bayou
 - PVC and plastic sheathing,
 Armacel pipe wrap, Gorilla
 tape
 - Estimate \$2.69/LF
 - Scaffolding and personnel<\$2,000
 - Replaced with bat friendly bridge design



Can NRM Help You Develop A Plan?

- Assess Bridge Location
 - Determine Presence
- Develop Strategic Plan for Bat Bridges by District
 - Is there opportunity for public viewing?
 - Are bats in the area and is suitable habitat present?
 - Is the nearby area agricultural?
 - Opportunity for ecotourism?



Conclusion

- Economic Benefit to Community
- Reduce Permitting/Coordination Time
- Provides On-site Mitigation
- Achieves TxDOT Goal and Vision
- Build Positive Relations
- Proactive Planning





