

THE LESSER PRAIRIE-CHICKEN RANGE-WIDE CONSERVATION PLAN



Lesser Prairie-Chicken Interstate Working Group

*Sean Kyle, TPWD; Jim Pitman, KDWPT; Grant Beauprez, NMGF;
Dave Klute, CPW; Allan Janus, ODWC; Bill Van Pelt, WAFWA;*

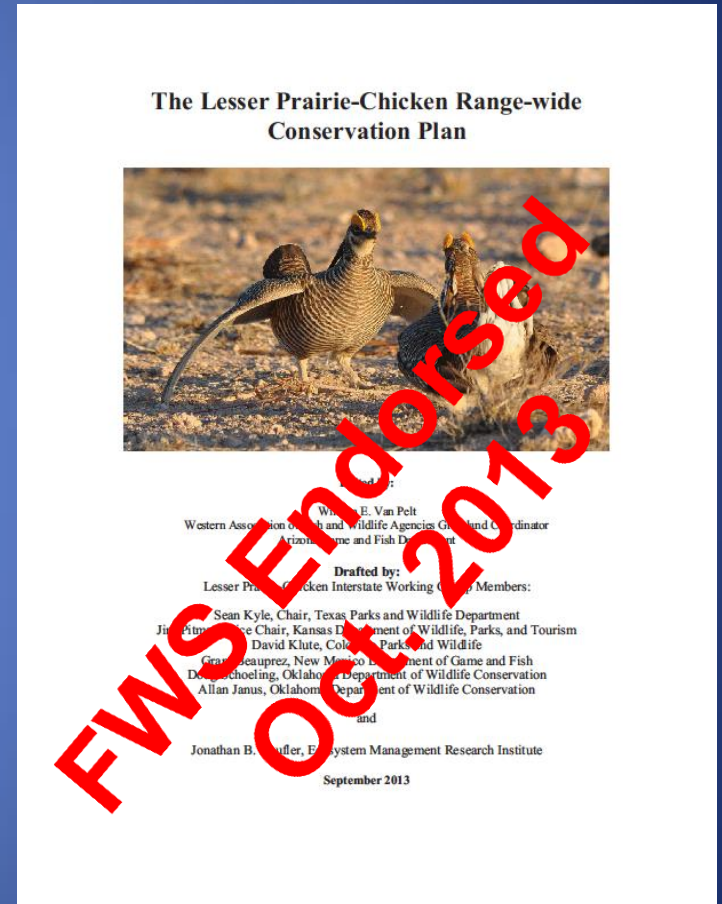
What we will cover

1. Objectives and goals of the RWP
2. The enrollment process, conservation measures, and survey requirements
3. Voluntary mitigation framework, mitigation fee calculation, and online resources for pre-project planning and siting decisions
4. Mitigation process and remediation of existing impacts
5. Contact information

LPC Range-Wide Conservation Plan

Objectives

- Preclude the need for a federal listing through voluntary conservation
- Maintain State G&F Agency management of the LPC
- Provide incidental take coverage for all industries and agriculture through 4(d) and CCAA
- Pathway to delisting if needed



Project Website:

http://www.wafwa.org/html/rangewide_lpc_conservation_plan.shtml

Industry Enrollment

- Representation from all industries is critical to averting listing
- Modest enrollment fees and conservation measures provide protection for existing development
- Voluntary mitigation framework for new development



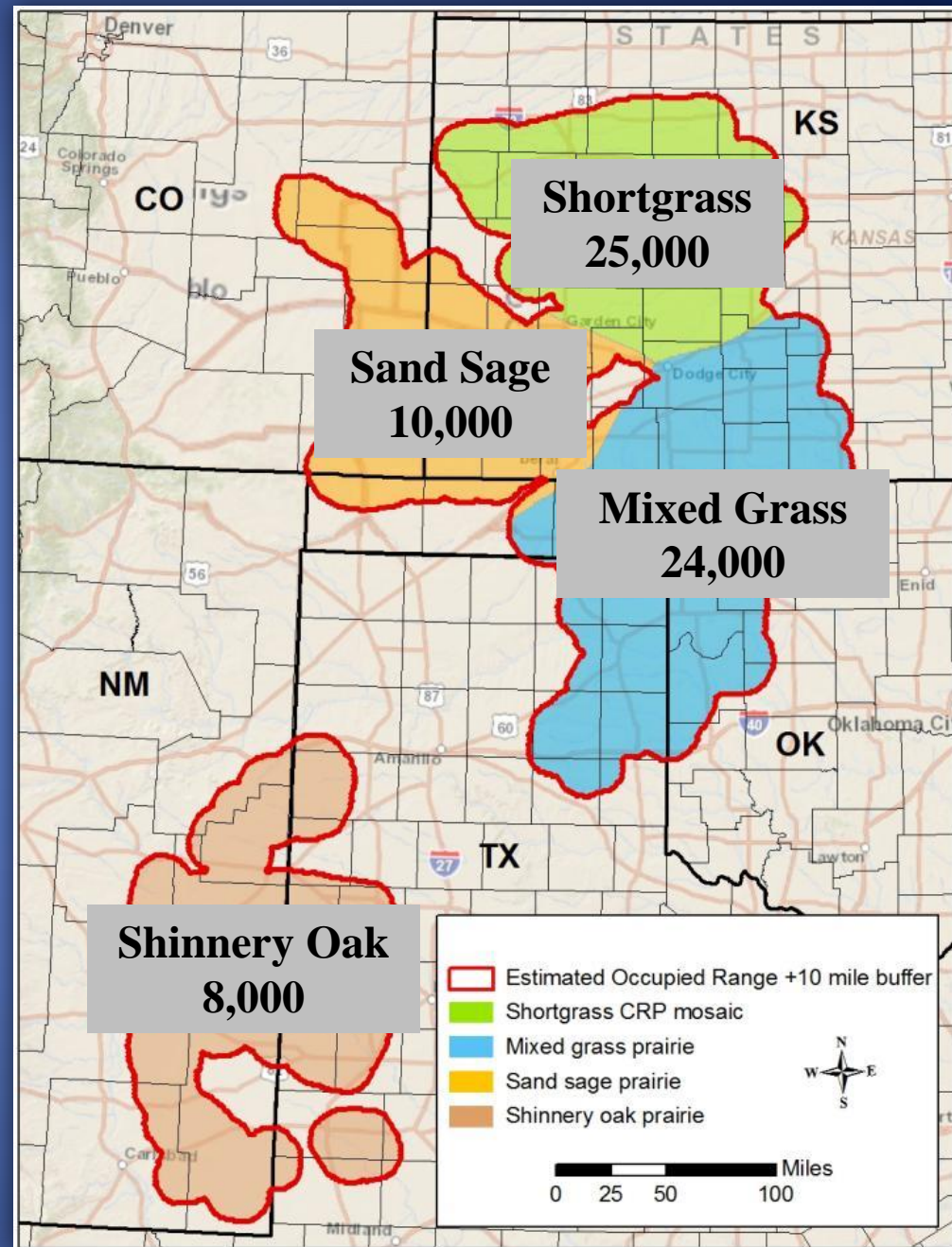
Farming and Ranching Enrollment

- Enroll acres to offset development impacts
- Performance-based system
- Incentive payment at enrollment and annual payments based on habitat quality
- Provides evidence of a conservation track record that could preclude a Federal listing



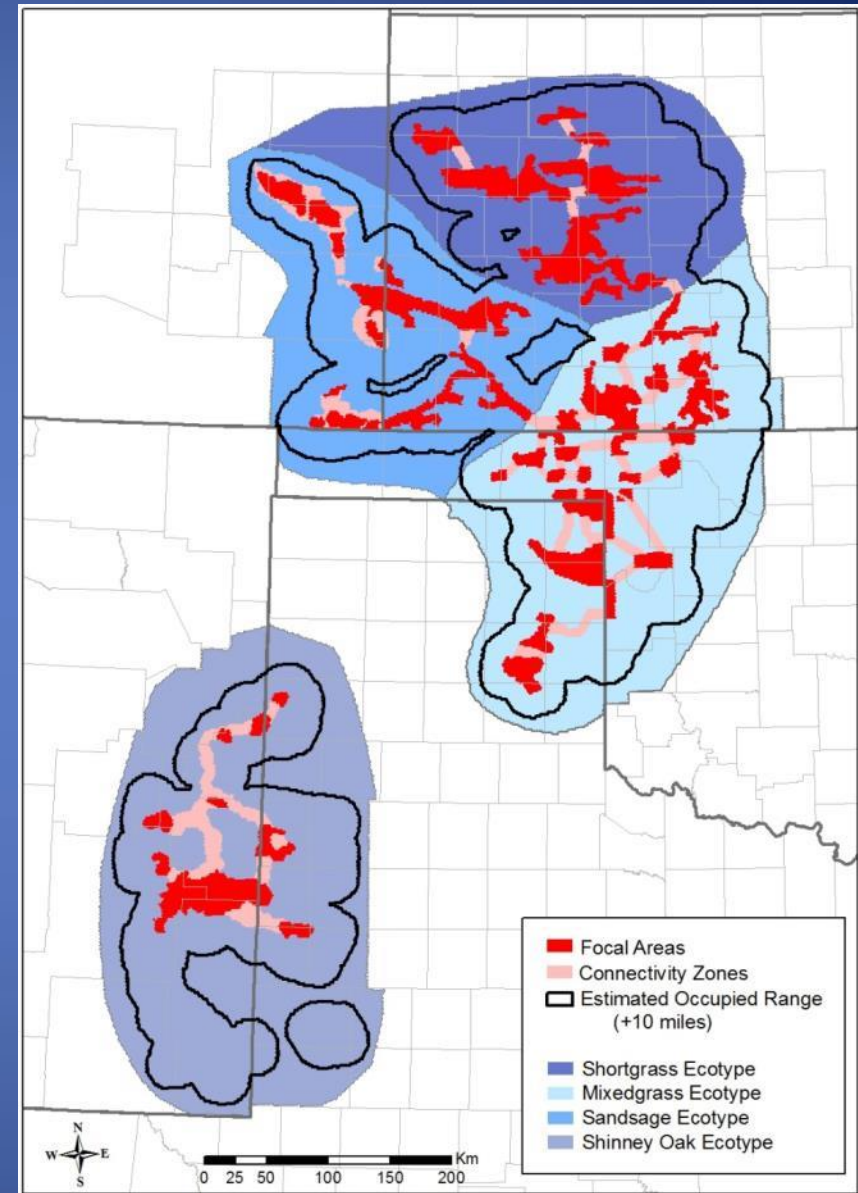
Population Goals

- 10-yr avg. of 67,000 birds
 - 2012 estimate of ~34,500
 - 2013 estimate of ~17,700
- Planned pop. increases
 - Sand Sagebrush
 - Shinnery Oak
 - Mixed Grass
- Planned pop. maintenance
 - Shortgrass/CRP

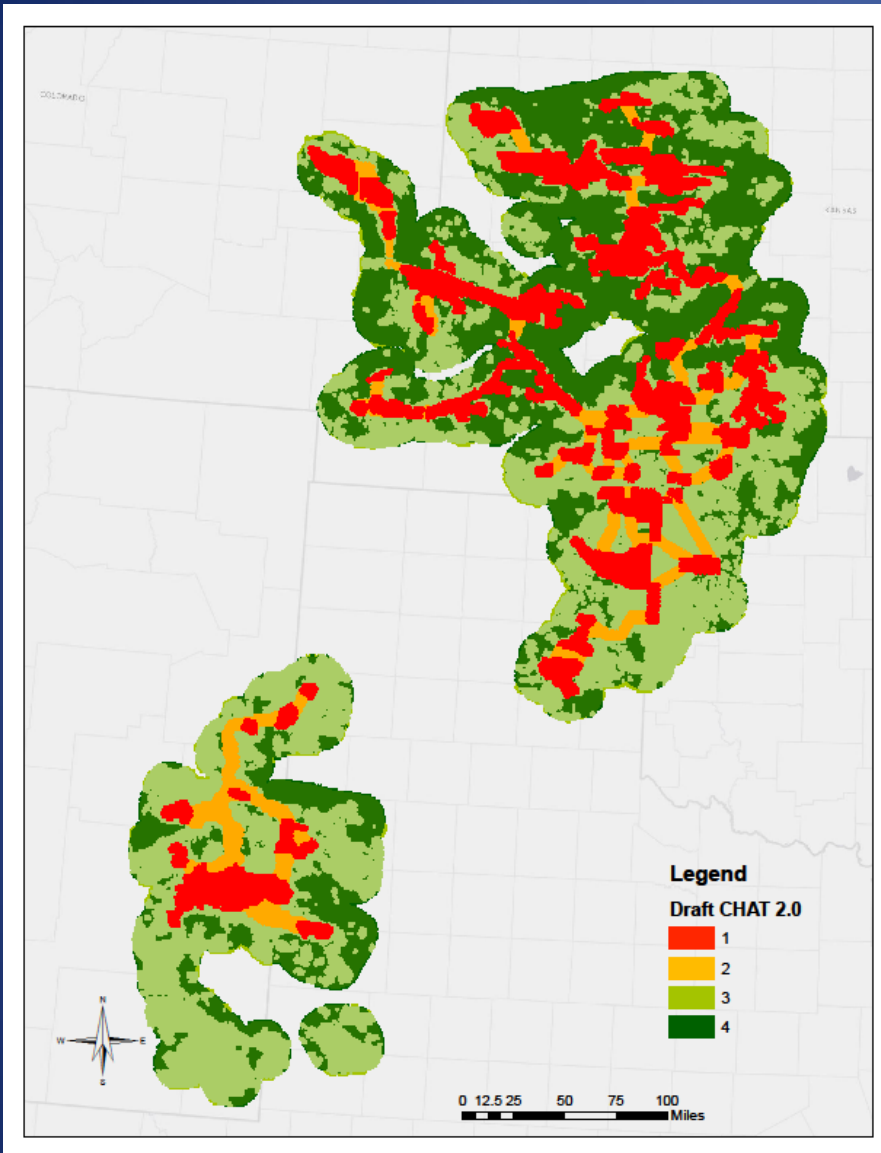


Focal Areas & Connectivity Zones

- Designated to support the majority of the population
- Less than 10 million acres or about 23% of the total area
- Room for sustainable LPC populations and development



LPC Crucial Habitat Assessment Tool (CHAT)



CHAT Category	Description
CHAT 1	Focal Areas
CHAT 2	Connectivity Zones
CHAT 3	Known leks & predicted habitat
CHAT 4	Remainder of range (+10 mi.)



What's required for enrollment?

- A map of the acreage or infrastructure to be enrolled
- A signed agreement
- Payment of enrollment fees
- An estimate of planned development for the next year



WAFWA Voluntary Mitigation Framework

Industry Enrollment Fees

- Assessed annually for three years
- Fees are applied to future impacts or mitigation
- Pay one fee even if you develop multiple impact types

Enrollment Fees by Impact Type	
Petroleum wells and infrastructure	\$2.25/acre
Wind Turbines and infrastructure	\$2.25/acre
Transmission lines	\$20,000*
Cell/Radio towers	\$15,000*
Primary roads	\$15,000*
Pipelines and infrastructure (<i>Downstream & Midstream</i>)	\$15,000*
Distribution lines	\$5,000*
Secondary roads	\$5,000*

** Fee not related to acreage or existing impacts*

WAFWA Voluntary Mitigation Framework

Conservation Measures—Minimizing Impacts

See Range-wide Plan for a complete description of CMs

- Timing restrictions
 - No non-emergency operations and maintenance between 3:00 am-9:00 am from May 1-July 15 within 1.25 miles of leks
- Noise restrictions
 - ≤ 75 dB @ 30 ft
 - Within 1.25 miles of leks
- Bury new power lines
 - Within 1.25 miles of leks



WAFWA Voluntary Mitigation Framework

Leks and Lek Surveys

- Aerial or ground-based lek surveys required on five-year intervals
- Survey protocol in the Range-wide Plan
- Buffered lek layer and survey coverage layer will be made available for enrolled properties





WAFWA Voluntary Mitigation Framework

Assessing Impact Units



- Mitigation is only required for new development in previously unimpacted habitat
- Mitigation must be completed prior to impact

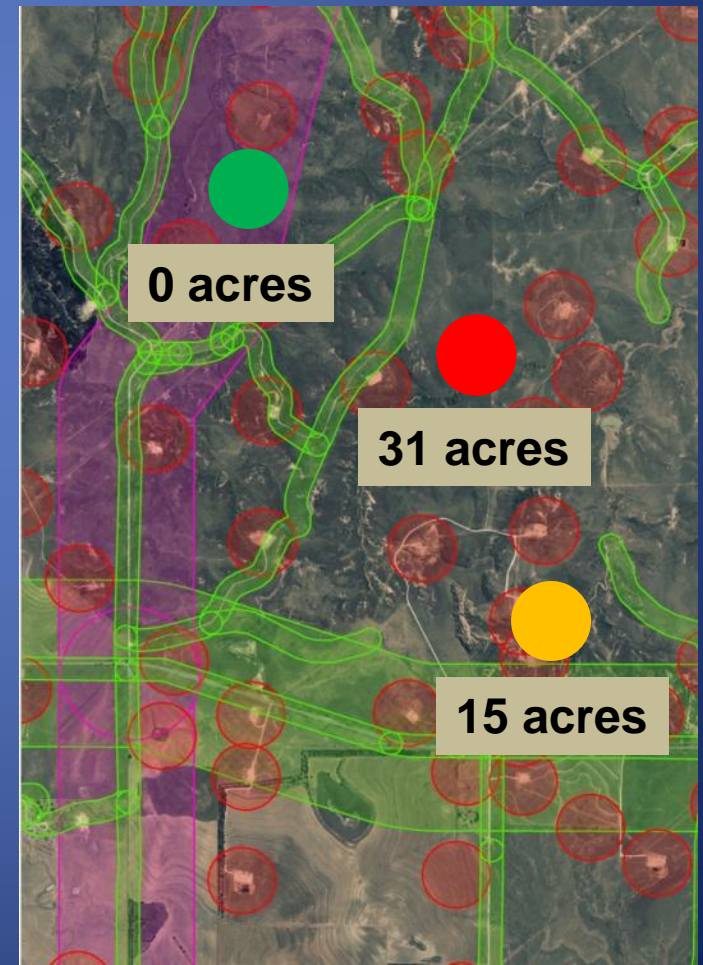


WAFWA Voluntary Mitigation Framework

Assessing Impact Units



- Impact acreage is determined by impact buffers defined in the RWP
- Participants are not responsible for mitigation of existing impacts.
- Siting within pre-existing impact buffers reduces new impacts and mitigation fees.



Pre-project Planning Tools-Impacts

CHAT Well Density Layer

The screenshot displays the SGP CHAT web application interface. At the top, the browser address bar shows the URL `kars.ku.edu/maps/sgpchat/`. The header features logos for the University of Kansas, Kansas Biological Survey, Western Governors' Association, Colorado Department of Natural Resources, Kansas Department of Wildlife, Parks, and Tourism, New Mexico Department of Game and Fish, and Texas Parks & Wildlife. Navigation links include "Project Home Page", "User Guide", "Download", and "Web Service Contents".

The main map area shows a hexagonal grid overlay on a satellite-style background. A legend on the left side of the map provides details for the "Oil and gas well density" layer, with categories: 0 (lightest), 1-4, 5-12, 13-50, and 51-150 (darkest). A scale bar at the bottom left indicates 10 miles. The bottom of the screen shows a Windows taskbar with various application icons and a system tray displaying the time as 7:47 PM.

Legend

- LEPC Estimated Occupied Range
- LEPC Estimated Occupied Range (+10 mi buff)
- Landscape Summaries**
- Oil and gas well density
 - 0
 - 1 - 4
 - 5 - 12
 - 13 - 50
 - 51 - 150

Layers Panel

- Base Layers
- LEPC Estimated Occupied Range
- Focal Areas and Connectivity Zone:
- Infrastructures Impacts Buffers
- LEPC Crucial Habitat
- Landscape Summaries**
 - Oil and gas well density
 - Infrastructure and crop impact pct
 - Infrastructure impact pct.
 - Grassland and shrubland pct.
- Modified Cropland Classifications
- NLCD 2006 Landcover

Pre-project Planning Tools-Impacts

CHAT Infrastructure Density Layer

The screenshot displays the SGP CHAT web application interface. The browser address bar shows the URL `kars.ku.edu/maps/sgpchat/`. The header features logos for the University of Kansas, Kansas Biological Survey, Western Governors Association, Colorado Parks & Wildlife, Kansas Department of Wildlife, Parks, and Tourism, New Mexico Game & Fish, Oklahoma Department of Wildlife Conservation, and Texas Parks & Wildlife. The main title is "Southern Great Plains Crucial Habitat Assessment Tool (SGP CHAT)".

The map area shows a hexagonal grid overlaying a satellite-style base map. The grid cells are colored based on infrastructure impact percentages. A legend on the left side of the map provides the following information:

- Legend**
- LEPC Estimated Occupied Range
- LEPC Estimated Occupied Range (+10 mi buff)
- Landscape Summaries**
- Infrastructure impact pct.
- 0.0 - 10 (light blue)
- 10.1 - 25 (medium blue)
- 25.1 - 50 (yellow)
- 50.1 - 75 (orange)
- 75.1 - 100 (red)

A layers panel on the right side of the map shows the following layers and their visibility status:

- Base Layers
- LEPC Estimated Occupied Range
- Focal Areas and Connectivity Zone:
- Infrastructures Impacts Buffers
- LEPC Crucial Habitat
- Landscape Summaries
 - Oil and gas well density
 - Infrastructure and crop impact pc
 - Infrastructure impact pct.
 - Grassland and shrubland pct.
- Modified Cropland Classifications
- NLCD 2006 Landcover

The bottom of the interface shows a scale bar (10 mi), coordinates (Latitude: 35.432890, Longitude: 100.918399), and the Esri logo. The Windows taskbar at the bottom indicates the time is 7:51 PM.

Pre-project Planning Tools-Impacts

CHAT Infrastructure/Cropland Layer

The screenshot displays the SGP CHAT web application interface. The browser address bar shows the URL kars.ku.edu/maps/sgpchat/. The header features logos for the University of Kansas, Western Governors Association, and various state agencies including Kansas, Colorado, New Mexico, Oklahoma, and Texas Parks & Wildlife. The main title is "Southern Great Plains Crucial Habitat Assessment Tool (SGP CHAT)".

The map area shows a grid of hexagonal cells colored according to impact percentages. A legend on the left side of the map provides the following information:

- Legend**
- LEPC Estimated Occupied Range
- LEPC Estimated Occupied Range (+10 mi buff)
- Landscape Summaries**
- Infrastructure and crop impact pct.
- 0.0 - 10 (light blue)
- 10.1 - 25 (medium blue)
- 25.1 - 50 (yellow)
- 50.1 - 75 (orange)
- 75.1 - 100 (red)

A layers panel on the right side of the map lists the following layers:

- Base Layers
- LEPC Estimated Occupied Range
- Focal Areas and Connectivity Zone:
- Infrastructures Impacts Buffers
- LEPC Crucial Habitat
- Landscape Summaries
 - Oil and gas well density
 - Infrastructure and crop impact pct.
 - Infrastructure impact pct.
 - Grassland and shrubland pct.
- Modified Cropland Classifications
- NLCD 2006 Landcover

The bottom of the interface shows the ESRI logo and the text "POWERED BY esri". The system tray at the bottom indicates the time is 8:08 PM.

Pre-project Planning Tools-Impacts

CHAT Impact Buffer Layers

The screenshot displays the SGP CHAT web application interface. At the top, the URL is kars.ku.edu/maps/sgpchat/. The header includes logos for KU Kansas Biological Survey, Western Governors' Association, Kansas Department of Wildlife, Parks and Tourism, and others. The main map area shows a geographical map with various colored overlays representing different data layers. A legend on the left side of the map provides a key for these layers:

- LEPC Estimated Occupied Range
- LEPC Estimated Occupied Range (+10 mi buff)
- Infrastructures Impacts Buffers
 - All Infrastructure
- LEPC Crucial Habitat
 - 1 Focal Area (Red)
 - 2 Connectivity Zone (Orange)
 - 3 Modeled Habitat (Light Green)
 - 4 Modeled Non-habitat (Dark Green)
 - 5 Outside EOR +10 miles (White)

On the right side, a layers panel is visible, showing a list of data layers with checkboxes. The 'Infrastructures Impacts Buffers' layer is checked. Other layers include 'Focal Areas and Connectivity Zone', 'Transmission lines (400 m)', 'Primary roads (500 m)', 'Secondary roads (67 m)', 'Private roads (10 m)', 'Vertical structures', 'Vertical structures (667m)', 'Active Oil and Gas Wells (200 m)', 'All Infrastructure', 'LEPC Crucial Habitat', 'Landscape Summaries', 'Modified Cropland Classifications', and 'NLCD 2006 Landcover'. A 'Download' button is highlighted with a red box and an arrow pointing to it from a blue text box.

These data layers can be downloaded for desktop analysis in GIS

WAFWA Voluntary Mitigation Framework

Assessing Impact Units



- Four consistent habitat variables
 - Easy to measure and repeatable
 - Don't vary widely with changing weather
- Habitat quality is a proportion (0 to 1)
- High quality habitat is not common



WAFWA Voluntary Mitigation Framework

Assessing Impact Units



Habitat Evaluation Guide (HEG)—4 consistent variables

1. Vegetation canopy cover
2. Vegetation composition (preferred grasses & shrubs)
3. Presence of tall woody plants (i.e. cedar infestation)
4. Availability of suitable habitat within 1 mi. radius



Pre-project Planning Tools-Habitat

CHAT Grassland/Shrubland Layer

The screenshot displays the SGP CHAT web application interface. At the top, the browser address bar shows the URL `kars.ku.edu/maps/sgpchat/`. The header features logos for the University of Kansas, Kansas Biological Survey, Western Governors' Association, Colorado Parks & Fish, Kansas Department of Wildlife, Parks, and Tourism, New Mexico Game & Fish, Oklahoma Department of Wildlife Conservation, and Texas Parks & Wildlife. Navigation links include "Project Home Page", "User Guide", "Download", and "Web Service Contents".

The main map area shows a hexagonal grid overlay on a satellite-style background. A legend window on the left provides details for the "Landscape Summaries" layer, specifically the "Grassland and shrubland pct." data. The legend includes a scale bar and a 10-mile distance marker. The legend content is as follows:

- Legend
- LEPC Estimated Occupied Range
- LEPC Estimated Occupied Range (+10 mi buff)
- Landscape Summaries
 - Grassland and shrubland pct.
 - 0.0 - 10
 - 10.1 - 25
 - 25.1 - 50
 - 50.1 - 75
 - 75.1 - 100

On the right side, a "Layers" panel is open, showing a list of map layers with checkboxes. The "Landscape Summaries" layer is selected and expanded, showing its sub-layers:

- Base Layers
- LEPC Estimated Occupied Range
- Focal Areas and Connectivity Zone:
- Infrastructures Impacts Buffers
- LEPC Crucial Habitat
 - LEPC Crucial Habitat
- Landscape Summaries
 - Oil and gas well density
 - Infrastructure and crop impact pc
 - Infrastructure impact pct.
 - Grassland and shrubland pct.
- Modified Cropland Classifications
- NLCD 2006 Landcover

The bottom of the screen shows the Windows taskbar with various application icons and the system clock displaying 7:57 PM. The Esri logo is visible in the bottom right corner of the map area.

Pre-project Planning Tools-Habitat

CHAT NLCD Landcover Layer

The screenshot displays the SGP CHAT web application interface. At the top, there is a navigation bar with logos for the Kansas Biological Survey, Western Governors' Association, Kansas Department of Wildlife, Parks and Tourism, and Texas Parks & Wildlife. The main title is "Southern Great Plains Crucial Habitat Assessment Tool (SGP CHAT)".

The central part of the interface is a map showing landcover data. A legend on the left side lists the following categories and their corresponding colors:

- 11 Open water (Blue)
- 21-24 Developed (Grey)
- 31 Barren land (White)
- 41 Deciduous forest (Pink)
- 42 Evergreen forest (Red)
- 43 Mix forest (Dark Red)
- 52 Shrub/Scrub (Light Green)
- 71 Grassland/Herbaceous (Dark Green)
- 81 Pasture/Hay (Light Green)
- 82 Cultivated crops (Brown)
- 90 Woody wetlands (Light Blue)
- 95 Emergent herbaceous wetland (Blue)

On the right side, there is a "Layers" panel with the following checked items:

- Base Layers
- LEPC Estimated Occupied Range
- LEPC Crucial Habitat
- NLCD 2006 Landcover

The map also includes a scale bar (5 mi) and a coordinate display at the bottom left: Latitude: 35.516488, Longitude: 100.788280. The bottom right corner features the Esri logo and the text "POWERED BY esri".

Pre-project Planning Tools-Habitat

CHAT Cropland Layer

The screenshot displays the web interface for the Southern Great Plains Crucial Habitat Assessment Tool (SGP CHAT). The browser address bar shows the URL kars.ku.edu/maps/sgpchat/. The header features logos for the University of Kansas Biological Survey, Western Governors Association, Kansas Department of Wildlife, Parks & Tourism, New Mexico Game & Fish, Oklahoma Department of Wildlife Conservation, and Texas Parks & Wildlife. Navigation links include Project Home Page, User Guide, Download, and Web Service Contents. The main map area shows a satellite view with overlaid habitat assessment layers. A legend on the left identifies the LEPC Estimated Occupied Range and Modified Cropland Classifications. A layers panel on the right lists various data layers, including Base Layers, LEPC Estimated Occupied Range, Focal Areas and Connectivity Zone, Infrastructures Impacts Buffers, LEPC Crucial Habitat, Landscape Summaries, Modified Cropland Classifications, and NLCD 2006 Landcover. The map includes a scale bar (5 mi) and coordinate information (Latitude: 35.583561, Longitude: 100.860363). The interface is powered by Esri.

Legend

- LEPC Estimated Occupied Range
- LEPC Estimated Occupied Range (+10 mi buff)
- Modified Cropland Classifications
- Modified Cropland Classification

Layers

- Base Layers
- LEPC Estimated Occupied Range
- Focal Areas and Connectivity Zone:
- Infrastructures Impacts Buffers
- LEPC Crucial Habitat
 - LEPC Crucial Habitat
- Landscape Summaries
- Modified Cropland Classifications
 - Modified Cropland Classification
- NLCD 2006 Landcover

Powered by esri

8:03 PM

WAFWA Voluntary Mitigation Framework

Assessing Impact Units

Impact
Acres

x

Habitat
Quality

x

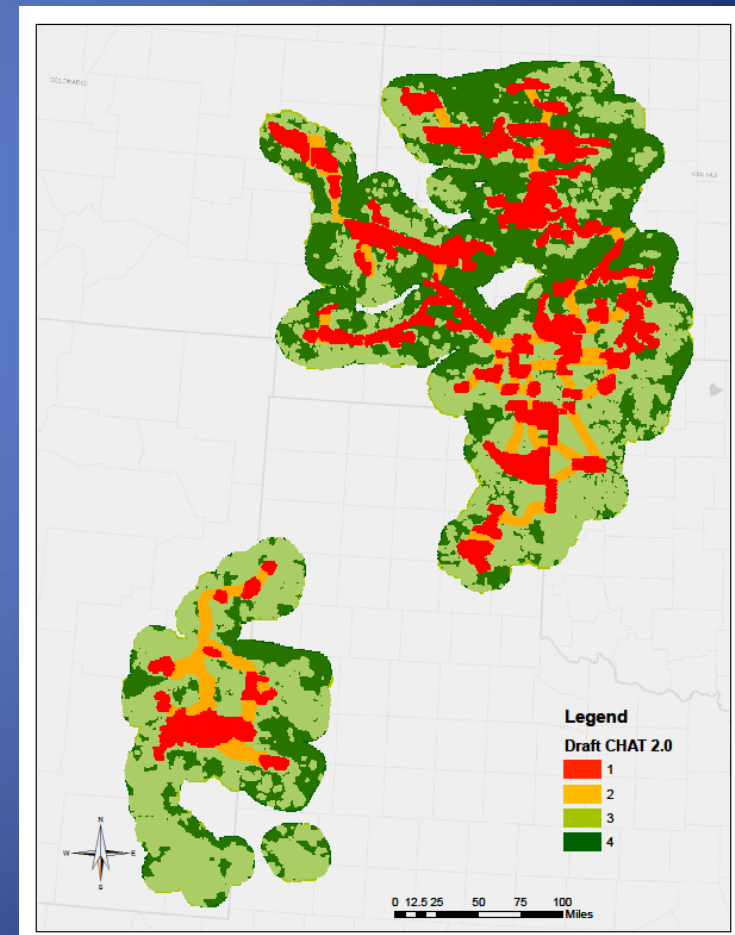
Impact
Multiplier

x

Endowment
Multiplier

CHAT Category	Impact Multiplier	Offset Multiplier
CHAT 1	2.5	1.25
CHAT 2	2.1	1.05
CHAT 3	1.8	0.9
CHAT 4	1.6	0.8

- Incentivizes avoidance
- Mitigation ratio is 2:1 in all categories



WAFWA Voluntary Mitigation Framework

Assessing Impact Units



- Pay up front for 25 years of impact
- Funds are invested in a non-wasting endowment fund
- Ensures conservation payments in-perpetuity to offset impacts
- One-time fee ensures coverage for take in-perpetuity



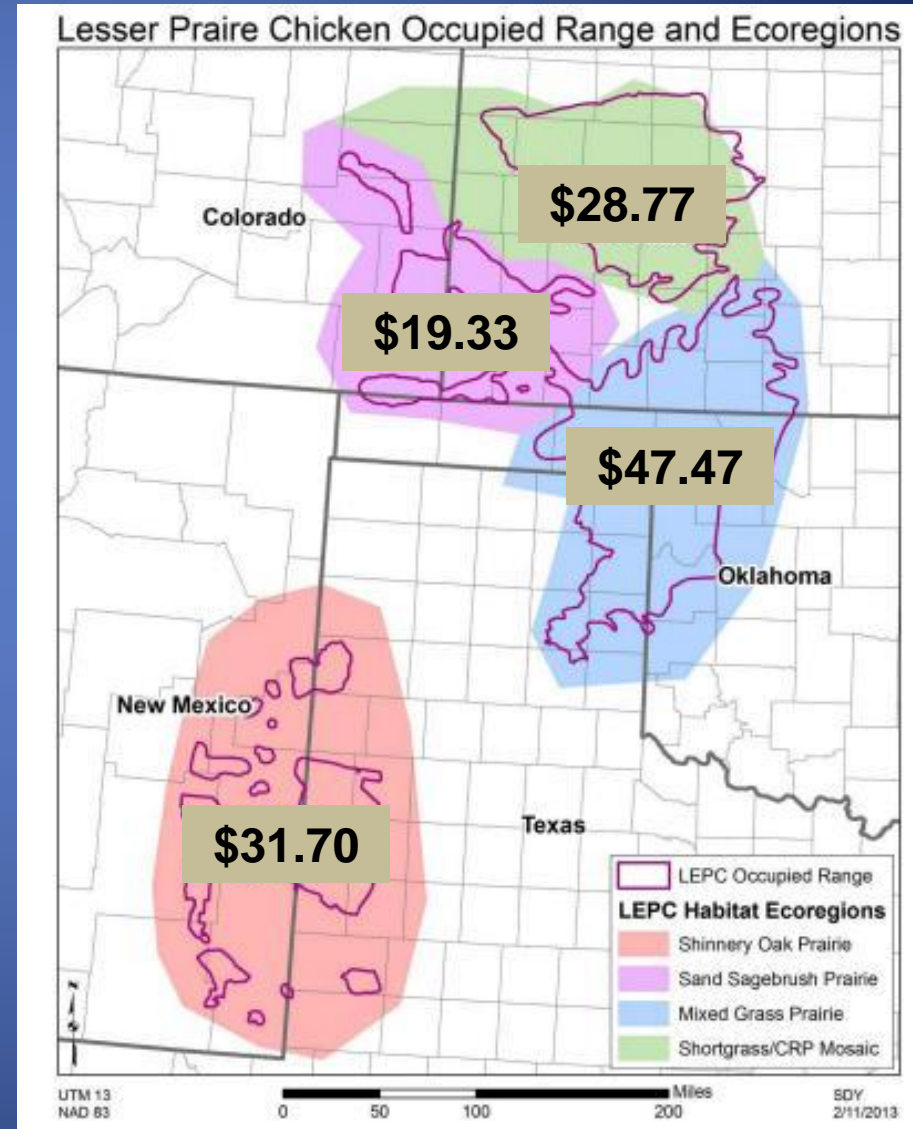
WAFWA Voluntary Mitigation Framework

Mitigation Fees

- Fees = Impact units X per acre habitat management cost
- Based on USDA practice costs
 - Restoration = native seeding and brush control
 - Maintenance = grazing, fire, CRP costs, and easement costs

- Conservation : admin ratio

87.5% : 12.5%





Siting Tools for Developments



CHAT Impact Estimator Tools

The screenshot shows the web application interface for the Southern Great Plains Crucial Habitat Assessment Tool (SGP CHAT). The browser address bar shows the URL `kars.ku.edu/maps/sgpchat/`. The header features logos for the University of Kansas, Western Governors' Association, and various state departments. The main map area displays a satellite view with overlaid data layers. A legend on the left lists layers such as "LEPC Estimated Occupied Range" and "Infrastructures Impacts Buffers". A layers panel on the right shows a list of layers with checkboxes, including "Base Layers", "LEPC Estimated Occupied Range", "Focal Areas and Connectivity Zone", "Infrastructures Impacts Buffers", "LEPC Crucial Habitat", "Shape Summaries", "Cropland Classifications", and "NLCD 2006 Landcover". A red box highlights a toolbar with three gear icons. Three blue callout boxes with black arrows point to these icons, labeled "Oil and Gas Pads", "Electrical Transmission Lines", and "Wind Turbines, Cell/Radio Towers, Compressor Stations, & Industrial Facilities". The bottom of the screen shows a Windows taskbar with various application icons and a system tray with the time 8:13 PM.

Oil and Gas Pads

Electrical Transmission Lines

Wind Turbines, Cell/Radio Towers, Compressor Stations, & Industrial Facilities

CHAT Impact Estimators

- Estimate the range of mitigation fees
- Uses habitat quality of 1.0 (highest) and 0.05 (poor)

The screenshot displays the web interface for the Southern Great Plains Crucial Habitat Assessment Tool (SGP CHAT). The browser address bar shows the URL `kars.ku.edu/maps/sgpchat/`. The header features logos for the University of Kansas, Kansas Biological Survey, Western Governors' Association, Kansas Department of Wildlife, Parks & Tourism, and Texas Parks & Wildlife. A navigation menu includes links for Project Home Page, User Guide, Download, and Web Service Contents. A red box highlights a grid icon in the top right corner of the interface.

The main map area shows a satellite view with a large purple circular area representing an impact estimator. A dialog box titled "LEPC Oil and Gas Well Impact Estimator. ..." is open, providing instructions: "Click point icon and digitize a point on map for each desired analysis location. When finished, press Submit. Results may take some time to appear. To view results, open the Attribute Table widget in the top right widget list." The dialog includes a "Clear" button and a "Submit" button.

On the left side, there is a "Legend" widget and a "Well impact" widget. On the right side, there is a "Layers" widget with a list of map layers, including "Well impact pieces", "Trans Line Impact pieces", "Base Layers", "LEPC Estimated Occupied Range", "Focal Areas and Connectivity Zone", "Infrastructures Impacts Buffers", "LEPC Crucial Habitat", "Landscape Summaries", "Modified Cropland Classifications", and "NLCD 2006 Landcover". A "Basemap" widget is also visible.

The bottom of the screen shows a Windows taskbar with the system clock at 8:37 PM and the ESRI logo.

CHAT Impact Estimators

KU Southern Great Plains Cru x
kars.ku.edu/maps/sgpchat/

KU KANSAS BIOLOGICAL SURVEY The University of Kansas
WESTERN GOVERNORS' ASSOCIATION
COLORADO PARKS & WILDLIFE
Kansas Department of Wildlife, Parks and Tourism
NEW MEXICO GAME & FIS
OKLAHOMA
TEXAS PARKS & WILDLIFE
Project Home Page | User G

Southern Great Plains Crucial Habitat Assessment Tool (SGP CHAT)

Legend
Well imp
LEPC Estim
LEPC Estim
Infrastructu

LEPC Oil and Gas Well Impact Estimator. ...
Click point icon and digitize a point on map for each desired analysis location. When finished, press Submit. Results may take some time to appear. To view results, open the Attribute Table widget in the top right widget list.
Assessment point *
Clear

Well impact pieces
Trans Line Impact pieces
Base Layers
LEPC Estimated Occupied R
Focal Areas and Connectivi
Infrastructures Impacts Bu
LEPC Crucial Habitat

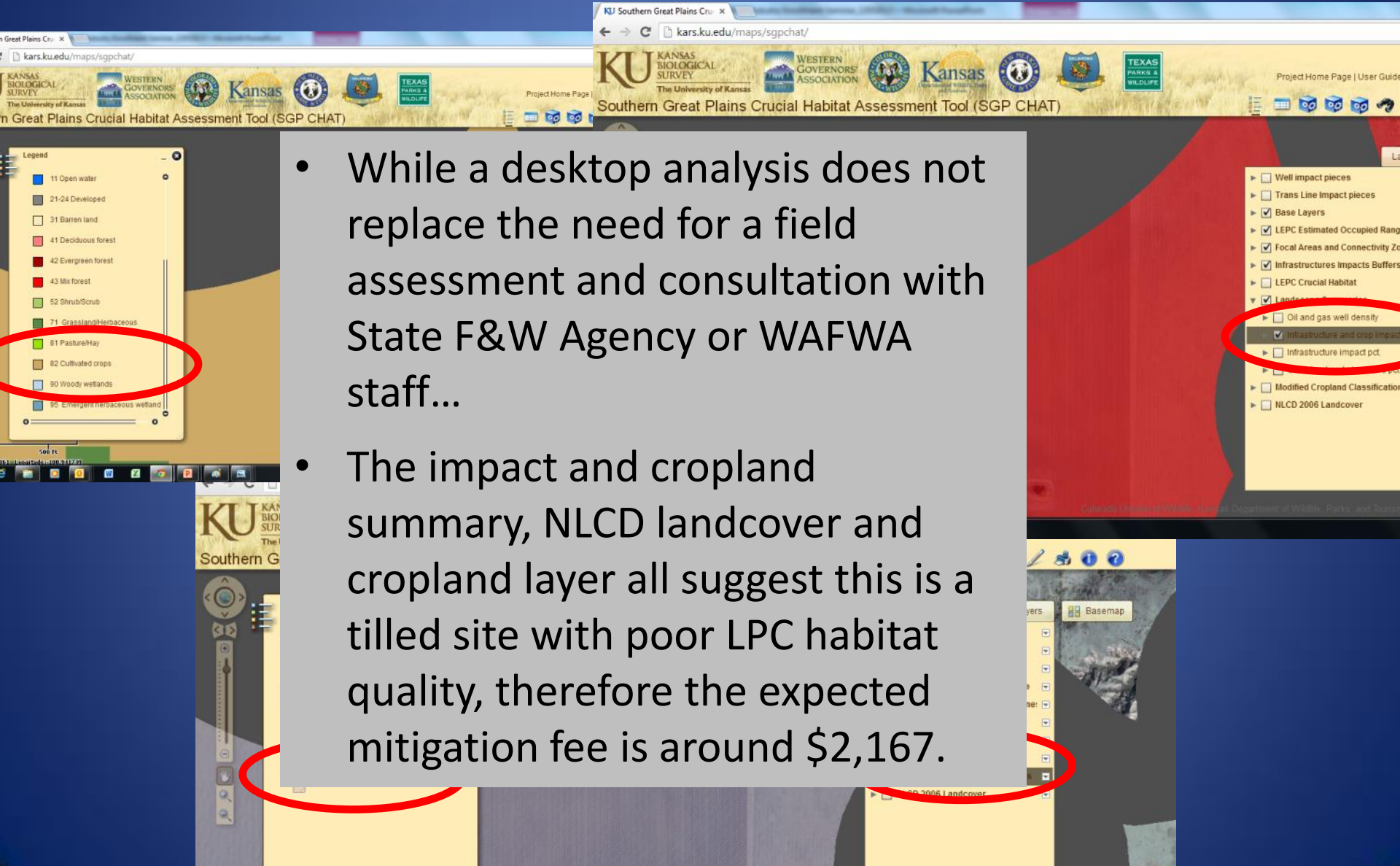
Attribute Table

Well impact pieces		LEPC Estimated Occupied Range (+10 mi buffer)			All Infrastructure			
plot	Eco_div	EOR10	LEPC_Cons	CHAT_sc...	HqHabCost	LqHabCost	SUM_acres	Shape_Length
1	Mixed Grass Prairie	in EOR10	Non FAC	4	43351	2167	20.294474749	1410.1642968817916

Estimated mitigation fee range

New impact acres

CHAT Impact Estimators



- While a desktop analysis does not replace the need for a field assessment and consultation with State F&W Agency or WAFWA staff...
- The impact and cropland summary, NLCD landcover and cropland layer all suggest this is a tilled site with poor LPC habitat quality, therefore the expected mitigation fee is around \$2,167.

Mitigation Analysis Process

1. Use available tools for pre-project planning and siting
2. Coordinate with State G&F staff where appropriate
3. Information on planned development to WAFWA
4. WAFWA will analyze and provide mitigation costs
5. Confirm balance or pay any additional mitigation fees required
6. Confirmation from WAFWA



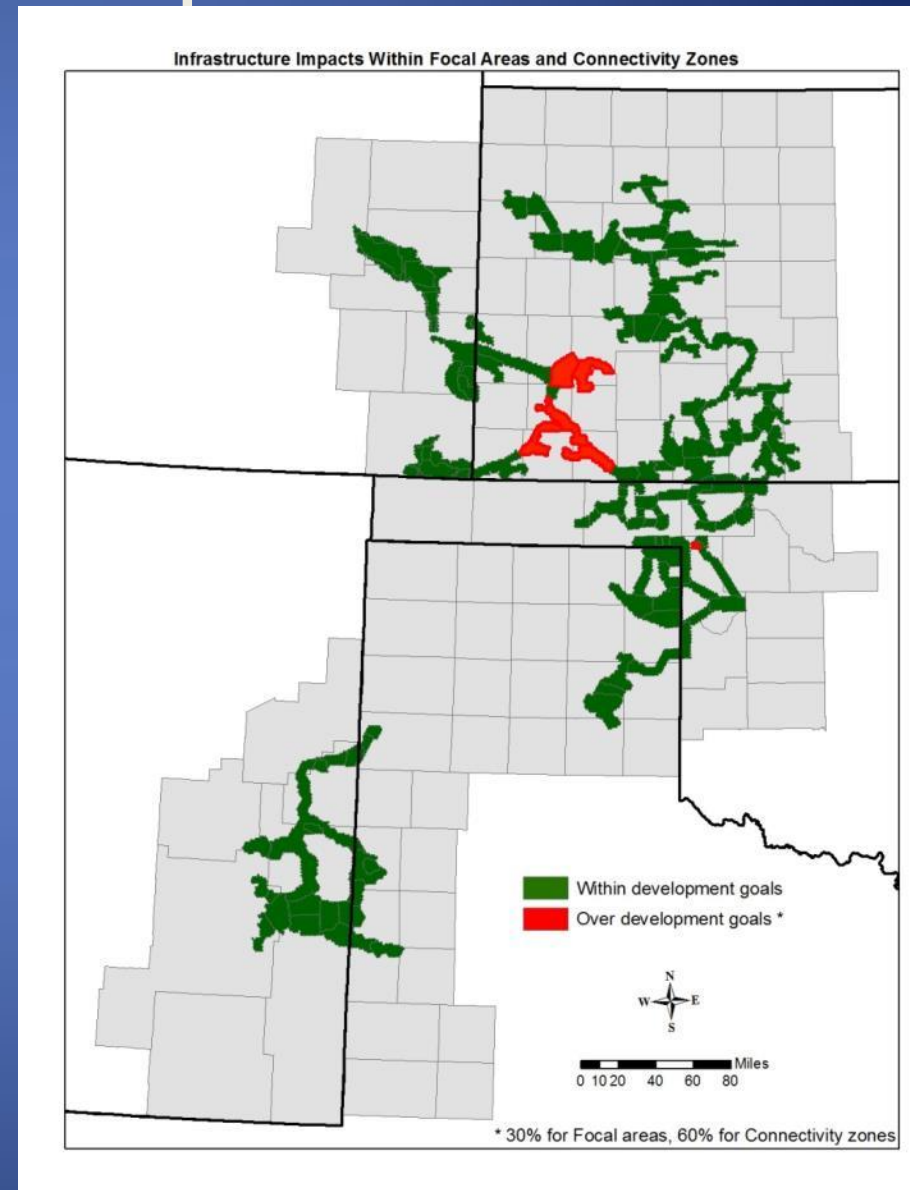
Remediation of Existing Impacts

- Remediation can be credited for mitigation of new impacts
- Remediation units may be transferred or sold



Remediation Requirement

- Required as a portion of mitigation where development exceeds conservation goals
 - Focal areas >30% impact buffers
 - Connectivity zones >60% impact buffers
- Must occur within a reporting unit within the same ecoregion



Contacts for Industry Enrollment and Mitigation

- Enrollment, siting, and mitigation
 - Sean Kyle, TPWD—sean.kyle@tpwd.texas.gov
- Spatial data for enrollment and mitigation
 - Allan Janus, ODWC—allanjanus@hotmail.com
- Payment and balance
 - Steve Barton, WAFWA—wafwa.treasurer@yahoo.com

Contacts for Pre-project Planning Information

- Southern Great Plains CHAT—Mike Houts
 - mhouts@ku.edu
- Colorado Parks & Wildlife—Al Trujillo
 - al.trujillo@state.co.us
- Kansas Wildlife Parks and Tourism—David Bender
 - david.bender@ksoutdoors.com
- New Mexico Game and Fish Dept.—Grant Beauprez
 - Grant.Beauprez@state.nm.us
- Oklahoma Dept. of Wildlife—Allan Janus
 - allanjanus@hotmail.com
- Texas Parks and Wildlife Dept.—Julie Wicker
 - julie.wicker@tpwd.texas.gov

