Status of Lesser Prairie-Chickens

A review of threats and conservation actions: a path forward

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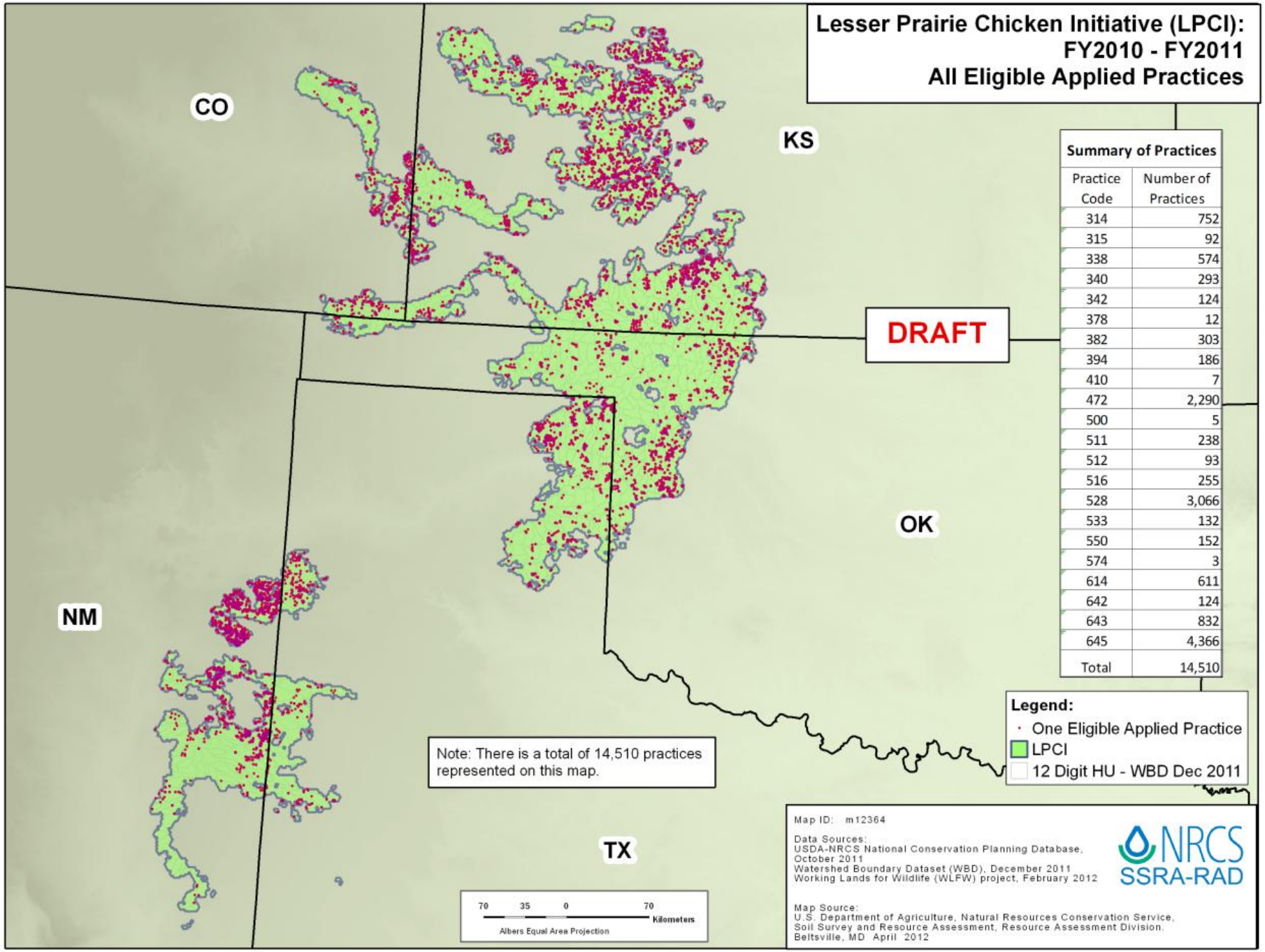
USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

LESSER PRAIRIE-CHICKEN INITIATIVE


Lesser Prairie Chicken Initiative (LPCI):
FY2010 - FY2011
All Eligible Applied Practices
CO
KS
OK
NM
TX
DRAFT
Summary of Practices
Practice Code | Number of Practices
314 | 752
315 | 92
338 | 574
340 | 293
342 | 124
378 | 12
382 | 303
394 | 186
410 | 7
472 | 2,290
500 | 5
511 | 238
512 | 93
516 | 255
528 | 3,066
533 | 132
550 | 152
574 | 3
614 | 611
642 | 124
643 | 832
645 | 4,366
Total | 14,510
Legend:
One Eligible Applied Practice
LPCI
12 Digit HU - WBD Dec 2011
Note: There is a total of 14,510 practices represented on this map.
70 35 0 70 Kilometers
Albers Equal Area Projection
Map ID: m12364
Data Sources:
USDA-NRCS National Conservation Planning Database, October 2011
Watershed Boundary Dataset (WBD), December 2011
Working Lands for Wildlife (WLFW) project, February 2012
NRCS
SSRA-RAD
Map Source:
U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey and Resource Assessment, Resource Assessment Division. Beltsville, MD April 2012

USDA and Lesser Prairie-Chickens

- Lesser Prairie Chicken Initiative (LPCI)
  - Shared vision
  - Targeted approach
  - Monitoring and evaluation
- Conservation Reserve Program (CRP)
  - State Acres for Wildlife Enhancement (SAFE) (Targeted approach)
  - Conservation Priority Areas (CPA)

LPC Conservation Actions

Voluntary*Mechanisms*

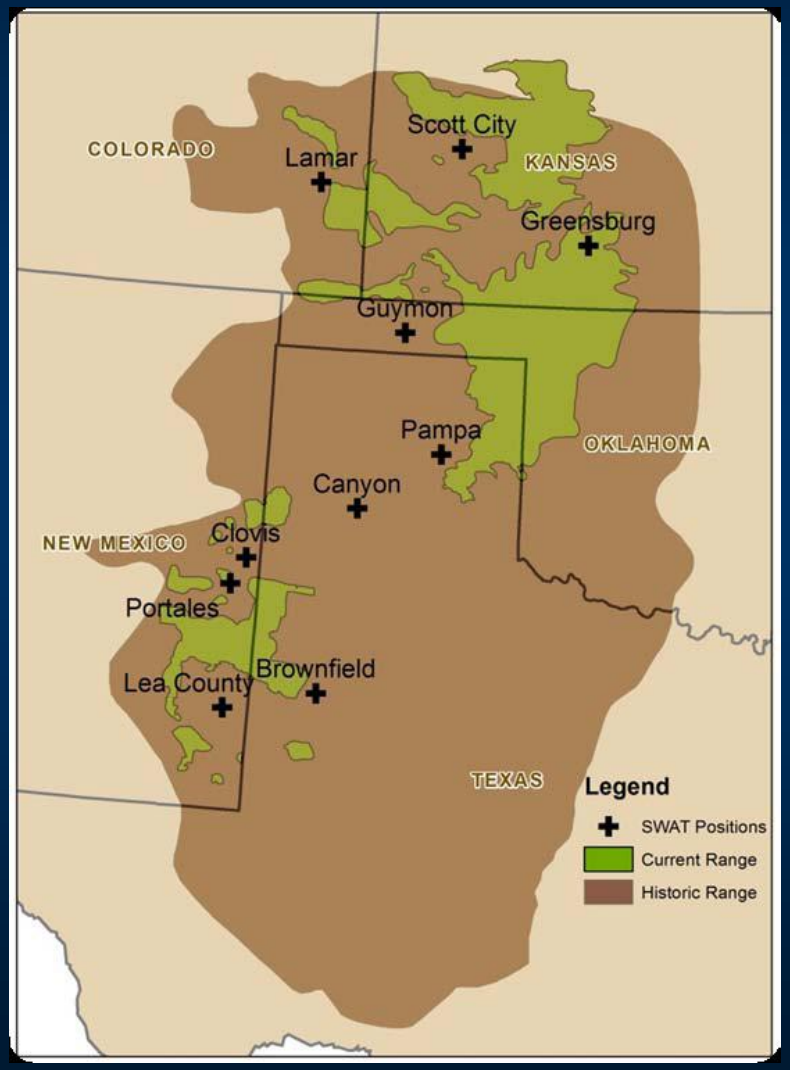
- Lesser Prairie Chicken Initiative (LPCI)
  - NRCS started in 2010
  - To provide Financial Assistance (FA) and Technical Assistance (TA) to improve working lands
  - FA funds available through the Environmental Quality Incentives Program (EQIP)/Wildlife Habitat Incentives Program (WHIP)/Working Lands for Wildlife (WLFW)

USDA and Lesser Prairie-Chickens

- LPCI
  - Strategic Watershed Action Teams (SWAT)
    - Contribution agreements with partners to provide additional on the ground assistance
    - Webinar & VTC Training >200 NRCS & partners
    - >220 staff were provided field training for LPCI

USDA and Lesser Prairie-Chickens

- SWAT
  - Employees of the partner to provide
  - Application assistance/assessment
    - Contract development follow-up
    - Practice implementation
    - Promotion of Initiative
    - Monitoring/Assessment
    - 11 positions with 13 partners



USFWS Five Factor Analysis

- "The ***most serious threats*** to the LEPC are ***loss of habitat*** from ***conversion of native rangelands*** to introduced forages and cultivation, recent and anticipated ***conversion of CRP lands*** to cropland, cumulative habitat degradation caused by ***inappropriate livestock grazing*** practices, wind energy development, oil and gas development, ***woody plant invasion*** of open prairies due to fire suppression, inappropriate ***herbicide applications***, and habitat fragmentation caused by structural and transportation developments. (USFWS 2008)"

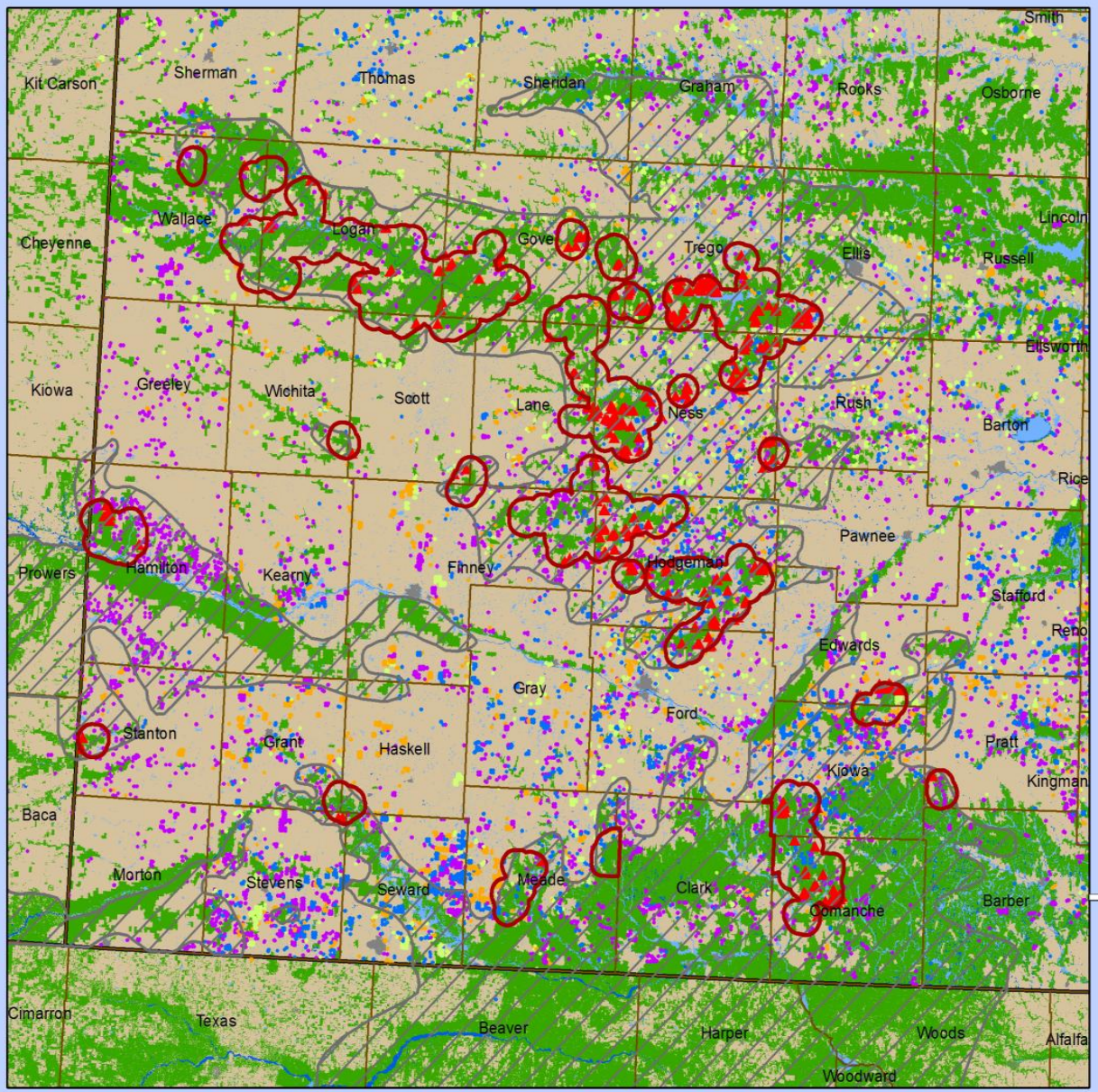
LPC Conservation Actions

Factor 1: Habitat

Conversion of Native Range

- **No consistent data from 2008-11**
  - **All suggest a *GAIN* of native range**
- **Inconclusive evidence**
  - **At a minimum NO SIGNIFICANT loss**

Target Areas for 30,000-acre Lesser Prairie-Chicken SAFE in KANSAS with Expiring CRP 2012-2015



Legend

- Target Areas
- LEPC Current Range
- SAFE 38E Parcels

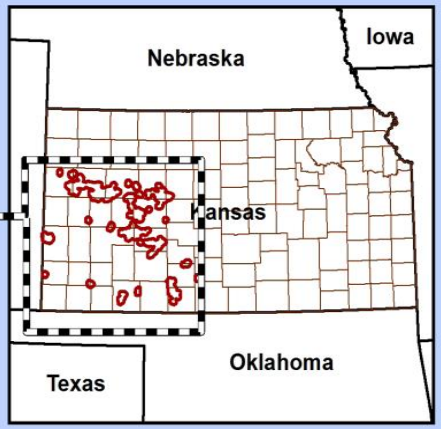
CRP Expiration Year

- 2012
- 2013
- 2014
- 2015

Landcover

- Water Body
- Cropland
- Developed/Other
- Woodland
- Grassland/Shrubland
- Riparian

Target Areas are areas within two miles of a large (500 - 30,000 ac) Lesser Prairie-Chicken habitat patch where a high percentage (>=5%) of CRP was set to expire in 2010 and 2011.



LPC Conservation Actions

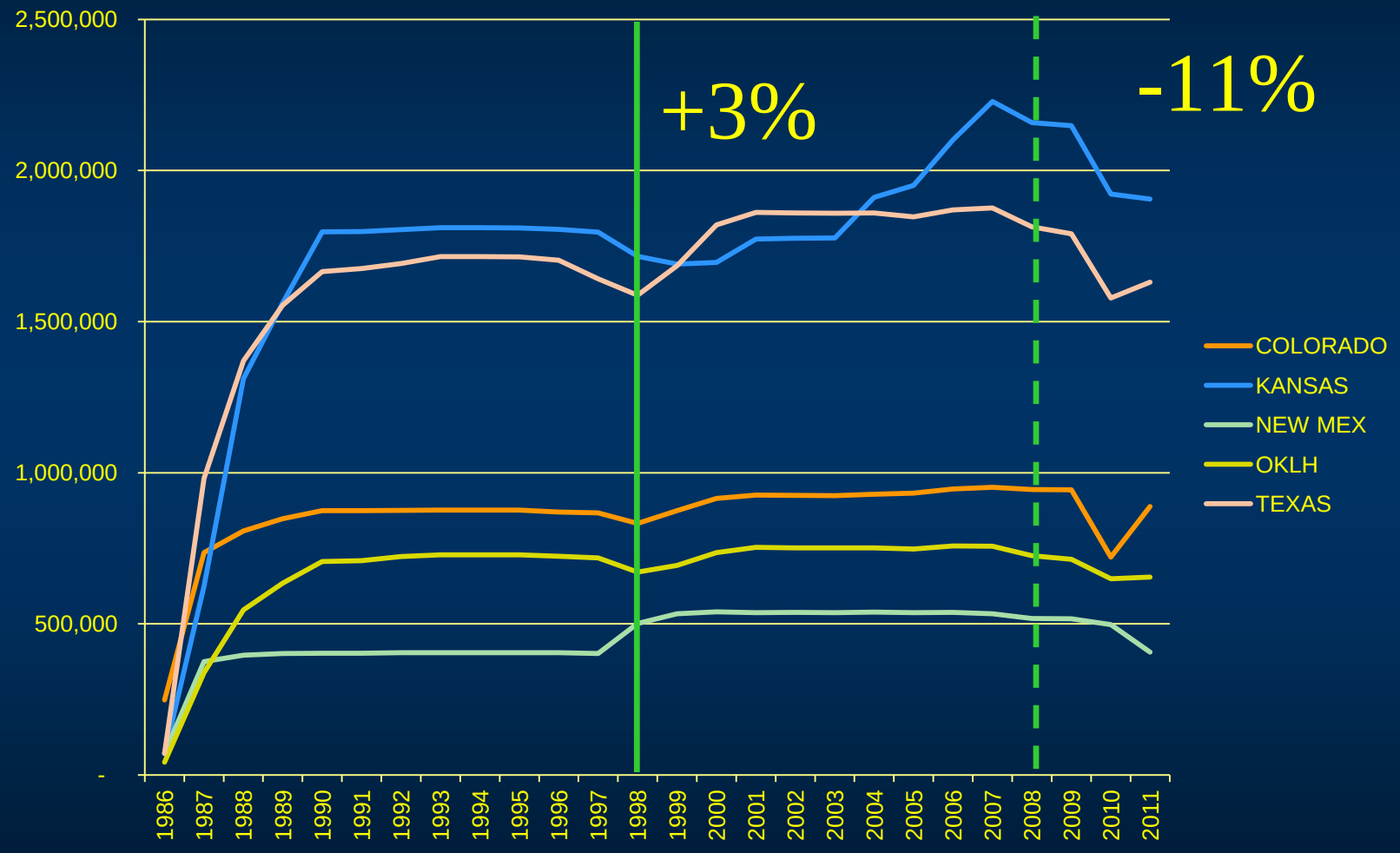
Factor 1: Habitat

CRP Status – SAFE Acres

- CRP LEPC SAFE Acres

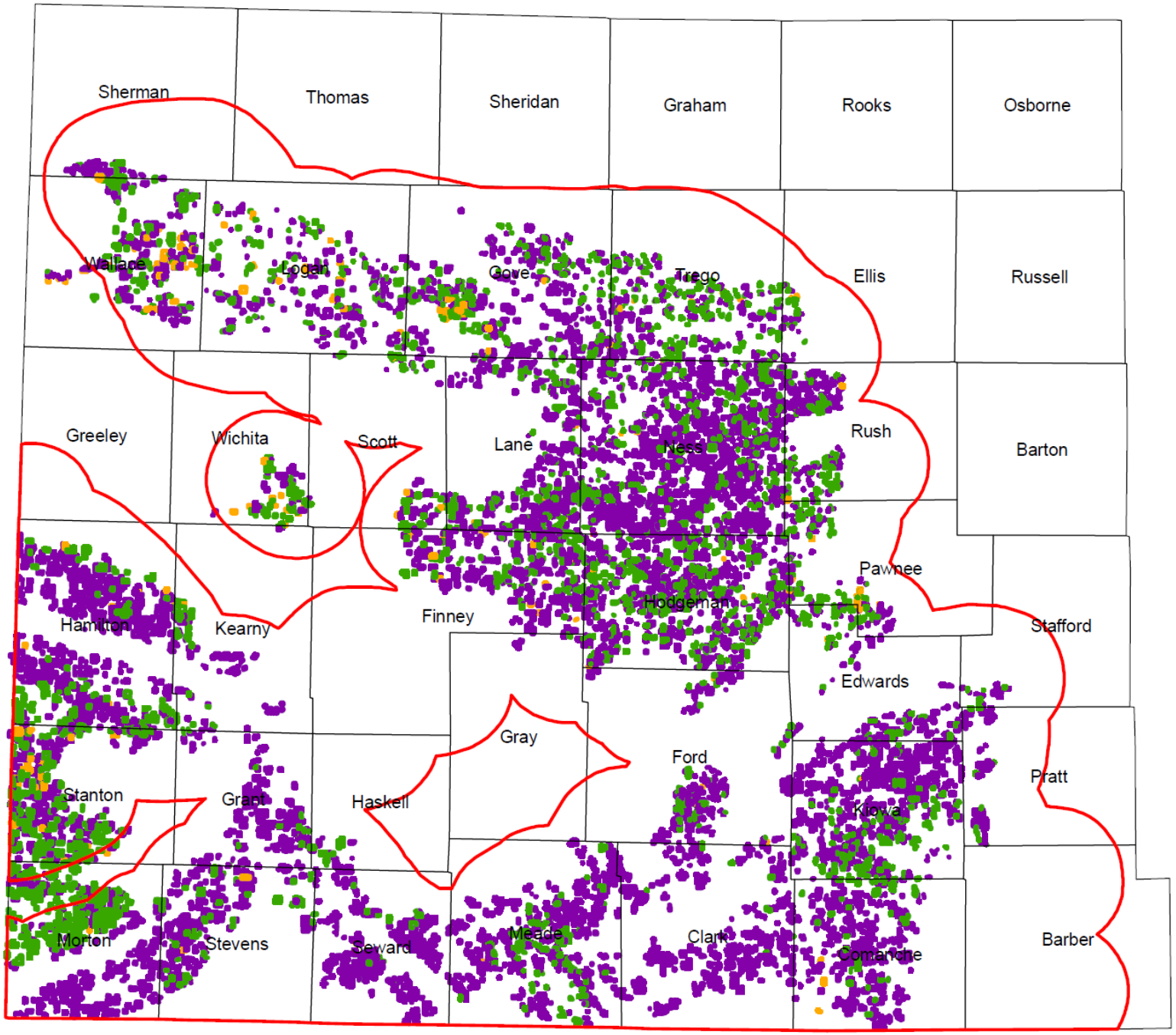
State	Allocation	Contracts	Acres
Colorado	21,500	50	12,043
Kansas	30,000	255	28,527
New Mexico	2,600	3	2,600
Oklahoma	15,100	63	6,814
Texas	78,400	354	76,840
TOTAL	147,600	725	126,824

Change in CRP Acres



Change in CRP

State	d2008-11	%d2008-11	%Expired still in Grass	Adjusted Acreage	Adjusted % change
Colorado	-55,979	-6%	**72.4%**	-15,394	-2%
Kansas	-252,827	-12%	**90.2%**	-25,283	-1%
New Mexico	-111,946	-22%	**97.5%**	-2,799	-1%
Oklahoma	-71,602	-10%	TBD	-71,602	-10%
Texas	-183,072	-10%	TBD	-183,072	-10%
Totals	-675,426	-11%		-298,149	-5%


Sherman
Thomas
Sheridan
Graham
Rooks
Osborne
Wallace
Logan
Gove
Trego
Ellis
Russell
Greeley
Wichita
Scott
Lane
Ness
Rush
Barton
Hamilton
Kearny
Finney
Hodgeman
Pawnee
Stafford
Edwards
Gray
Ford
Pratt
Stanton
Grant
Haskell
Kiowa
Morton
Stevens
Seward
Meade
Clark
Comanche
Barber

"Within the next few years, the possible conversion of over 1 million acres of currently enrolled CRP grasslands to cropland and other less suitable land uses ***has the potential to destroy or modify some 14% of the remaining occupied habitat. (2008)"***

- CRP Habitat Loss = 2 to 5%
  - 2008-2010
- CPAs, SAFE, LPCI & voluntary "no plow"
  - have greatly **minimized** this threat

LPC Conservation Actions

Factor 1: Habitat

Grazing Management

- Status improper grazing/stocking rates/drought
- No baseline was provided in 2008 or other USFWS assessments

LPC Conservation Actions

Factor 1: Habitat

Grazing Management

- Preliminary data > 600 National Resources Inventory (NRI) data points
  - Overall rangeland health 1.79
  - Ave. hydrologic function 1.42
  - Ave. soil surface stability 1.37

Departure from normal

1 = none to slight

5 = extreme

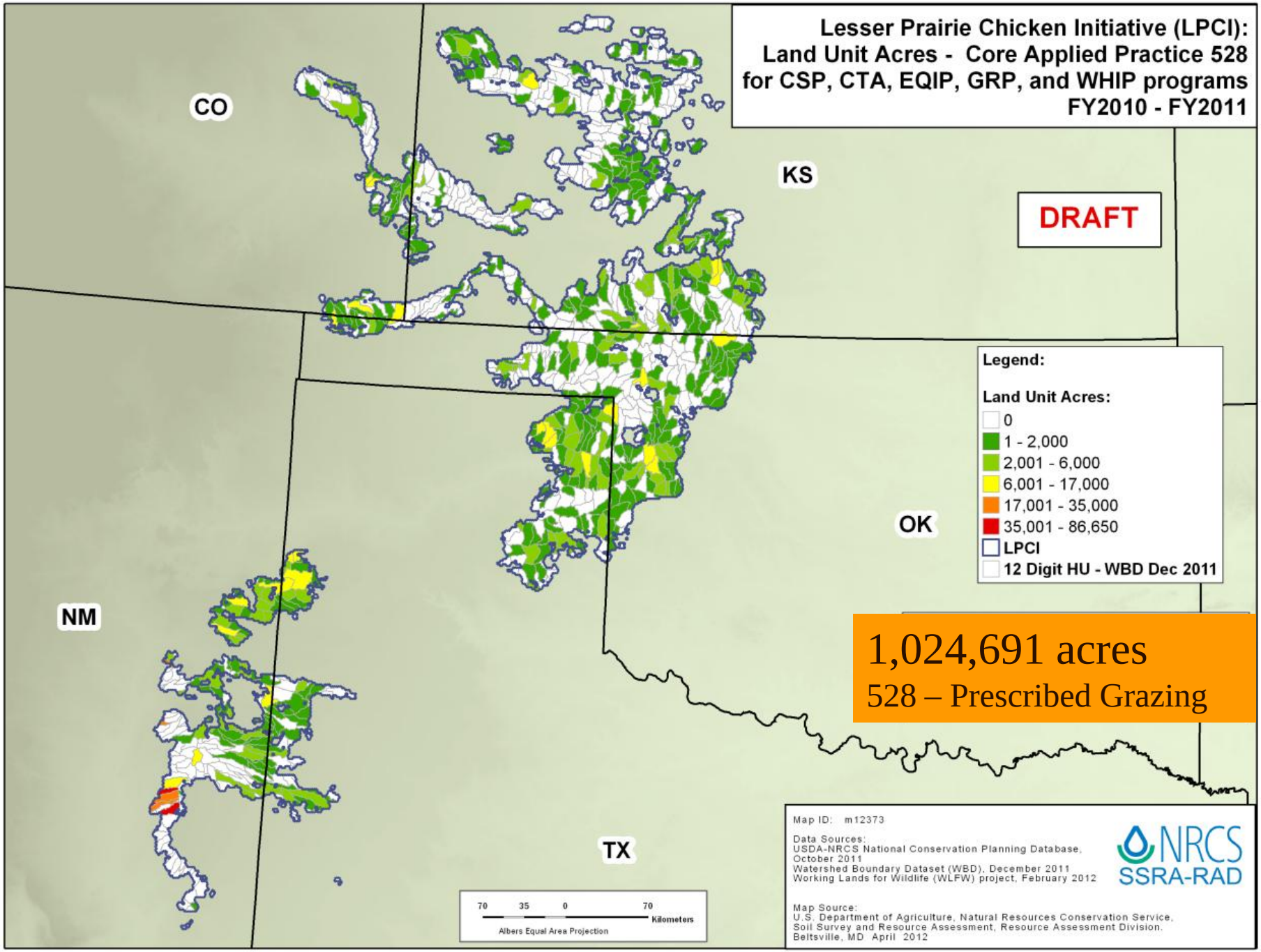
LPC Conservation Actions

Factor 1: Habitat

Grazing Management

- Preliminary data > 600 NRI data points
  - Foliar plant cover = 78%
  - LEPC herbaceous plant cover = 37%
  - LEPC Shrub cover = 11%
  - Bare ground = 23%
  - Plant ht 55 cm (22 in)

These values within those published in management guidelines (Hagen et al. 2004)


Lesser Prairie Chicken Initiative (LPCI):
Land Unit Acres - Core Applied Practice 528
for CSP, CTA, EQIP, GRP, and WHIP programs
FY2010 - FY2011
DRAFT
CO
KS
OK
NM
TX
Legend:
Land Unit Acres:
0
1 - 2,000
2,001 - 6,000
6,001 - 17,000
17,001 - 35,000
35,001 - 86,650
LPCI
12 Digit HU - WBD Dec 2011
1,024,691 acres
528 – Prescribed Grazing
70 35 0 70
Kilometers
Albers Equal Area Projection
Map ID: m12373
Data Sources:
USDA-NRCS National Conservation Planning Database, October 2011
Watershed Boundary Dataset (WBD), December 2011
Working Lands for Wildlife (WLFW) project, February 2012
NRCS
SSRA-RAD
Map Source:
U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey and Resource Assessment, Resource Assessment Division, Beltsville, MD April 2012

"Plant height and density may decline, particularly when plant regeneration is hindered, and composition shifts to increased proportions of less desirable species. ***When grasslands are in a deteriorated condition due to overgrazing and overutilization, the soils have less water-holding capacity,*** *and the availability of succulent vegetation and insects utilized by LEPC chicks are reduced."*

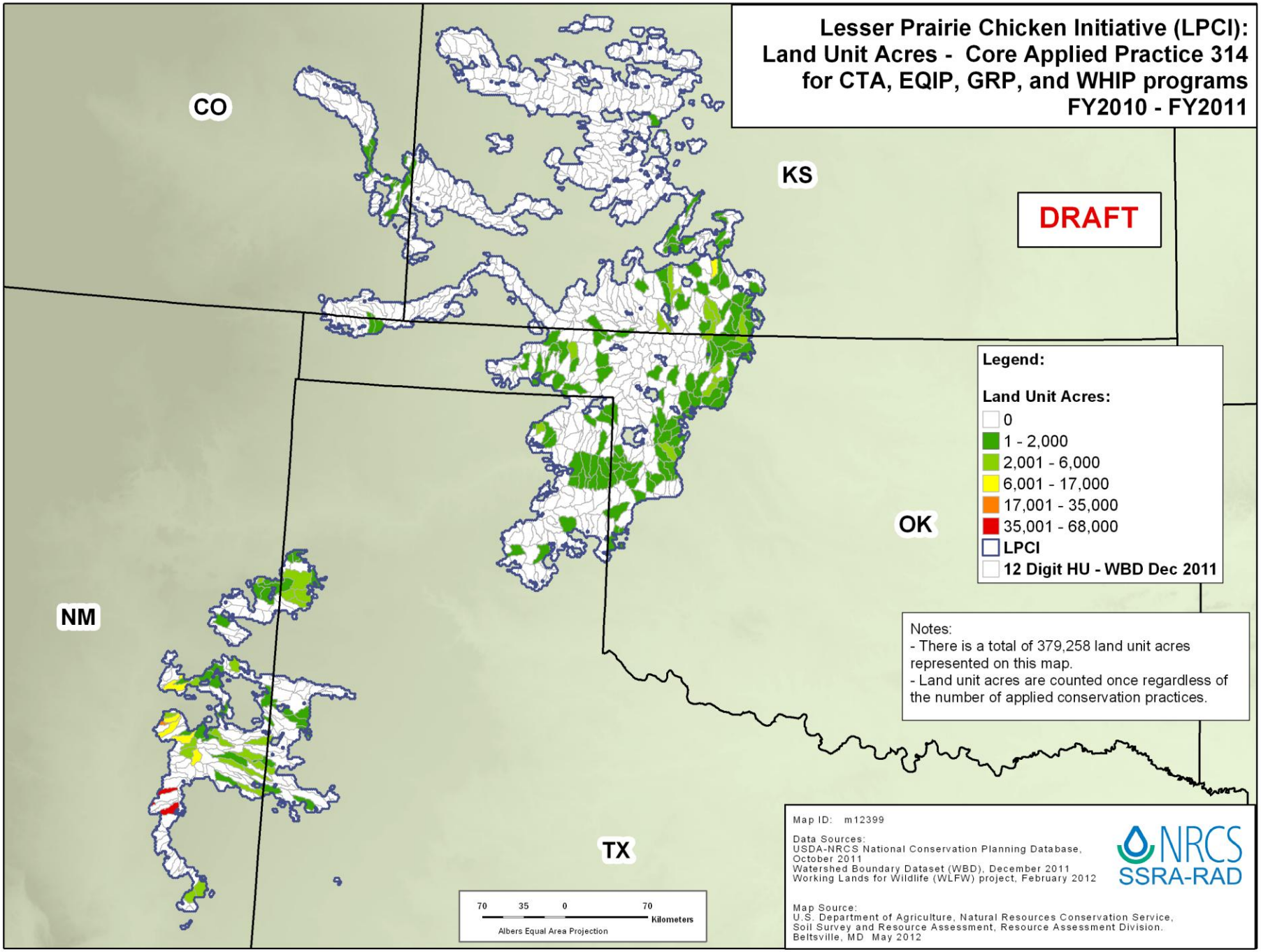
- Rangelands are healthy in occupied range
  - Hydrologic function & soil stability
  - Vegetative structure & composition adequate
  - Localized issues may exist,
  - but **NOT SIGNIFICANT** rangewide & progress is being made in management

LPC Conservation Actions

Factor 1: Habitat

Brush Management

- Woody invasion treatments (2008-2011)
- Brush Management LPCI = 28,000 ac cedar control
- Partners = 262,000 ac
- 46,000 acres of prescribed fire
  - NM - BLM 683,000 ac mesquite control


Lesser Prairie Chicken Initiative (LPCI):
Land Unit Acres - Core Applied Practice 314
for CTA, EQIP, GRP, and WHIP programs
FY2010 - FY2011
DRAFT
CO
KS
OK
NM
TX
Legend:
Land Unit Acres:
0
1 - 2,000
2,001 - 6,000
6,001 - 17,000
17,001 - 35,000
35,001 - 68,000
LPCI
12 Digit HU - WBD Dec 2011
Notes:
- There is a total of 379,258 land unit acres represented on this map.
- Land unit acres are counted once regardless of the number of applied conservation practices.
70 35 0 70
Kilometers
Albers Equal Area Projection
Map ID: m12399
Data Sources:
USDA-NRCS National Conservation Planning Database, October 2011
Watershed Boundary Dataset (WBD), December 2011
Working Lands for Wildlife (WLFW) project, February 2012
NRCS
SSRA-RAD
Map Source:
U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey and Resource Assessment, Resource Assessment Division. Beltsville, MD May 2012

LPC Conservation Actions

Factor 1: Habitat

Brush Management

- Inappropriate use of herbicides
  - State Tech Notes for shinnery oak
    - TX NRCS 2001, NM NRCS 2008
- TTU research – reduced rate herbicide
  - 10 years post-treatment
  - Benign or beneficial to LEPC nesting

Before-After Photos

"Tree (and mesquite) invasion in native rangeland has the potential ***to render significant portions of remaining occupied habitat unsuitable within the near term****."*

- Extent of cedar and mesquite threat will be quantified in 2012
- Efforts will further reduce this threat
  - 300,000 ac of cedar removal
  - 600,000 ac of mesquite removal
- More targeted approach forth coming
  - Threat reduced by 6% of Estimated Occupied Range (EOR)

LPC Conservation Actions

Factor 4: Regulatory Mechanisms

- Conference Report
  - Developed by NRCS and the Service
    - Provides analysis of expected adverse, benign, or beneficial effects associated with implementation of conservation practices
    - All practices implemented within the action area are required to be implemented according to the practice standards and conservation measures in the report
    - Implementation of identified conservation practices may result in short-term adverse effects to individual birds but overall result will provide long-term benefits to the species

LPC Conservation Actions

Factor 4: ~~Regulatory~~ Mechanisms

Voluntary

- LPCI 2010-2011 Contracts

State	Contracts	Dollars	Acres
Colorado	11	$793,834	51,378
Kansas	109	$2,964,497	48,783
New Mexico	19	$1,547,621	177,165
Oklahoma	46	$1,551,993	47,805
Texas	438	$12,572,047	392,256
Totals	623	$19,429,992	717,387

Protracts data 4/19/12

LPC Conservation Actions

OUTSIDE Purview of NRCS

- *Factor 1: Energy Development***
- *Factor 2: Overutilization (Harvest)*
- *Factor 3: Disease or Predation*

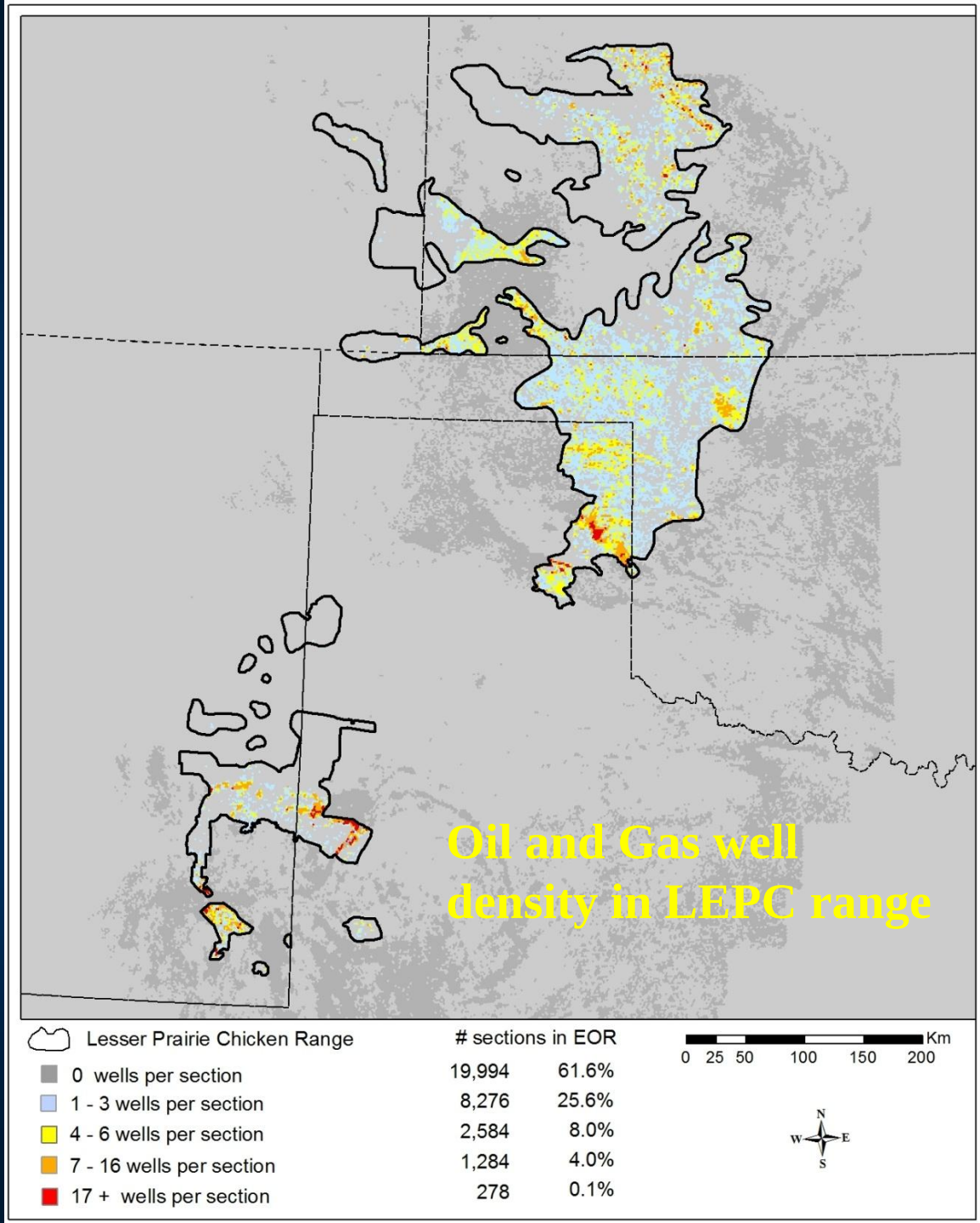
LPC Conservation Actions

Factor 1: Habitat

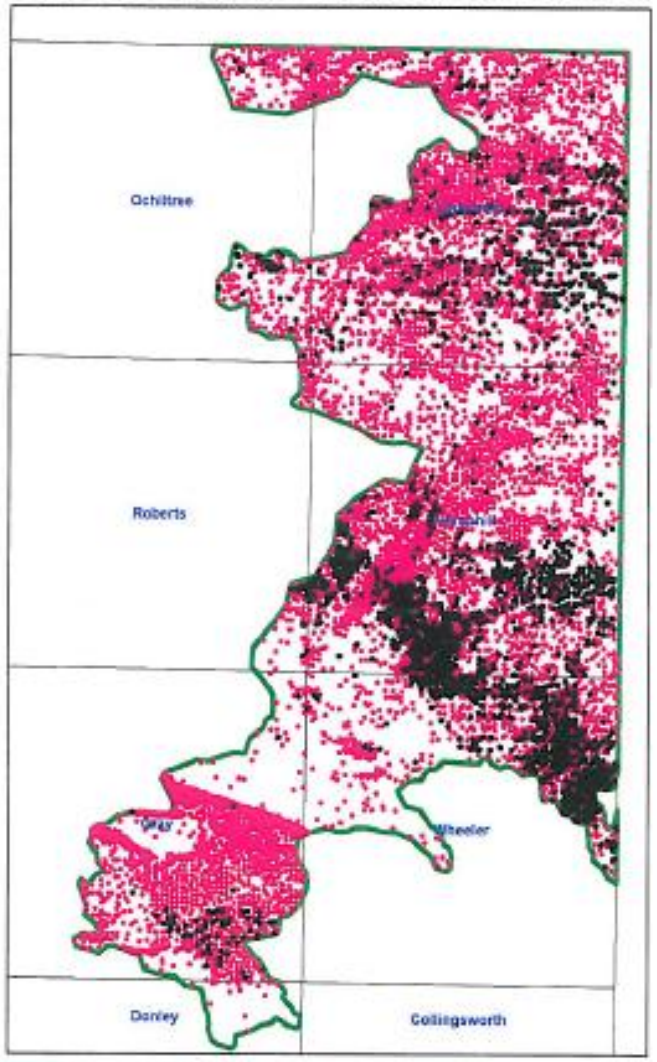
Energy Development

Concern: Oil and gas expansion

- Mitigating factors
  - Infilling
  - Existing regulations
  - CCAAs in NM and TX
- Concern: Wind energy footprint
  - HCP


Oil and Gas well density in LEPC range
Lesser Prairie Chicken Range
sections in EOR
0 wells per section 19,994 61.6%
1 - 3 wells per section 8,276 25.6%
4 - 6 wells per section 2,584 8.0%
7 - 16 wells per section 1,284 4.0%
17 + wells per section 278 0.1%
Km
0 25 50 100 150 200
N
W
E
S

Oil and Gas Wells in the Lesser Prairie-Chicken Range in the Northeast Texas Panhandle



TEXAS PARKS & WILDLIFE

Legend

- NE wells drilled since 2006
- All surface wells drilled up to 2006
- Current Lesser Prairie-Chicken EOR

N

Regulations in CO & KS

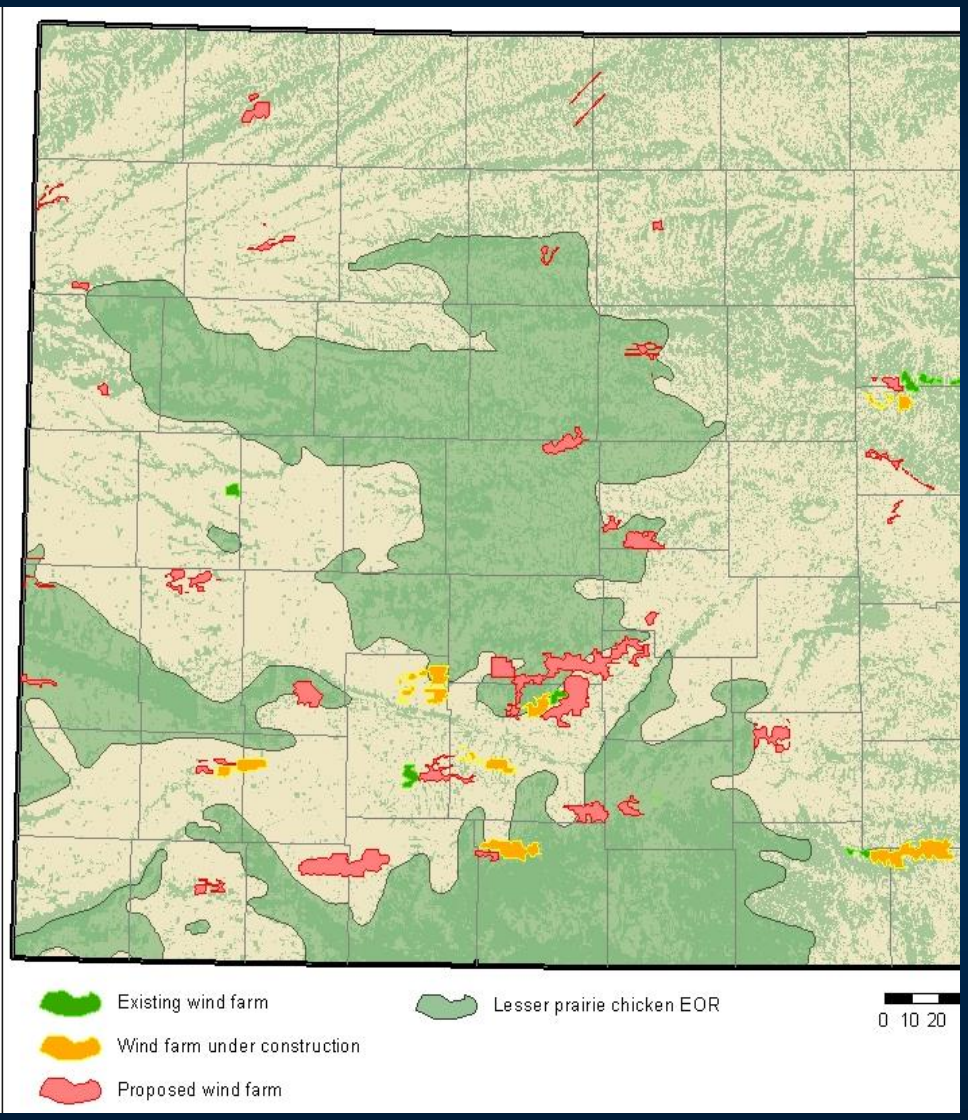
- Colorado HB 1298 – O&G Comm. Rules
  - Restricted surface occupancy - <0.6 mi from lek
  - Seasonal operation restrictions - <2.2 mi from lek
- Kansas Regs

Formation Name	Unit Size (Acres)	Set-Back (ft.)	Singular Completions	Dual Completion	Max Wells/Section
Hugoton/Panoma	640	1,250	3	3	6
Novinger	320	660	1	Not Applicable	2
Glick	640	1,250	1	Not Applicable	1
Greenwood	640	1,250	1	Not Applicable	1

CCAA & CCAs

- NM
  - 29 O&G companies = 815,890 ac CCAs : $3,000,000 contributed
  - 39 ranches = 1,523,573 ac CCAAs
- TX & OK
  - Agreements are being developed

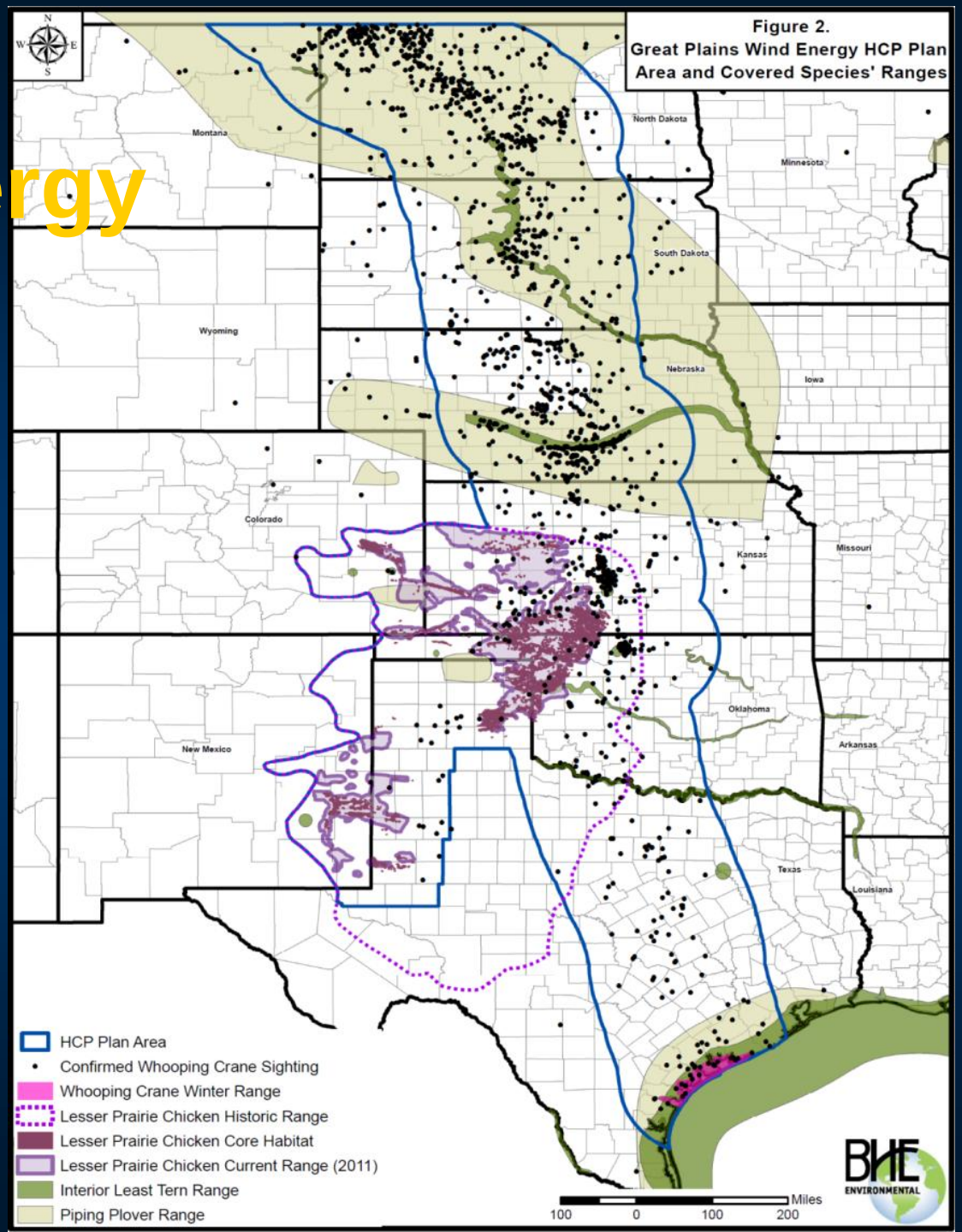
Wind Energy



State	Acres	% EOR
KS	27,917	0.15%
OK	?	?
NM	26,423	0.14%
TX	0	0
CO	0	0
Total	53,340	0.19%

< 1% loss

HCP for Wind energy

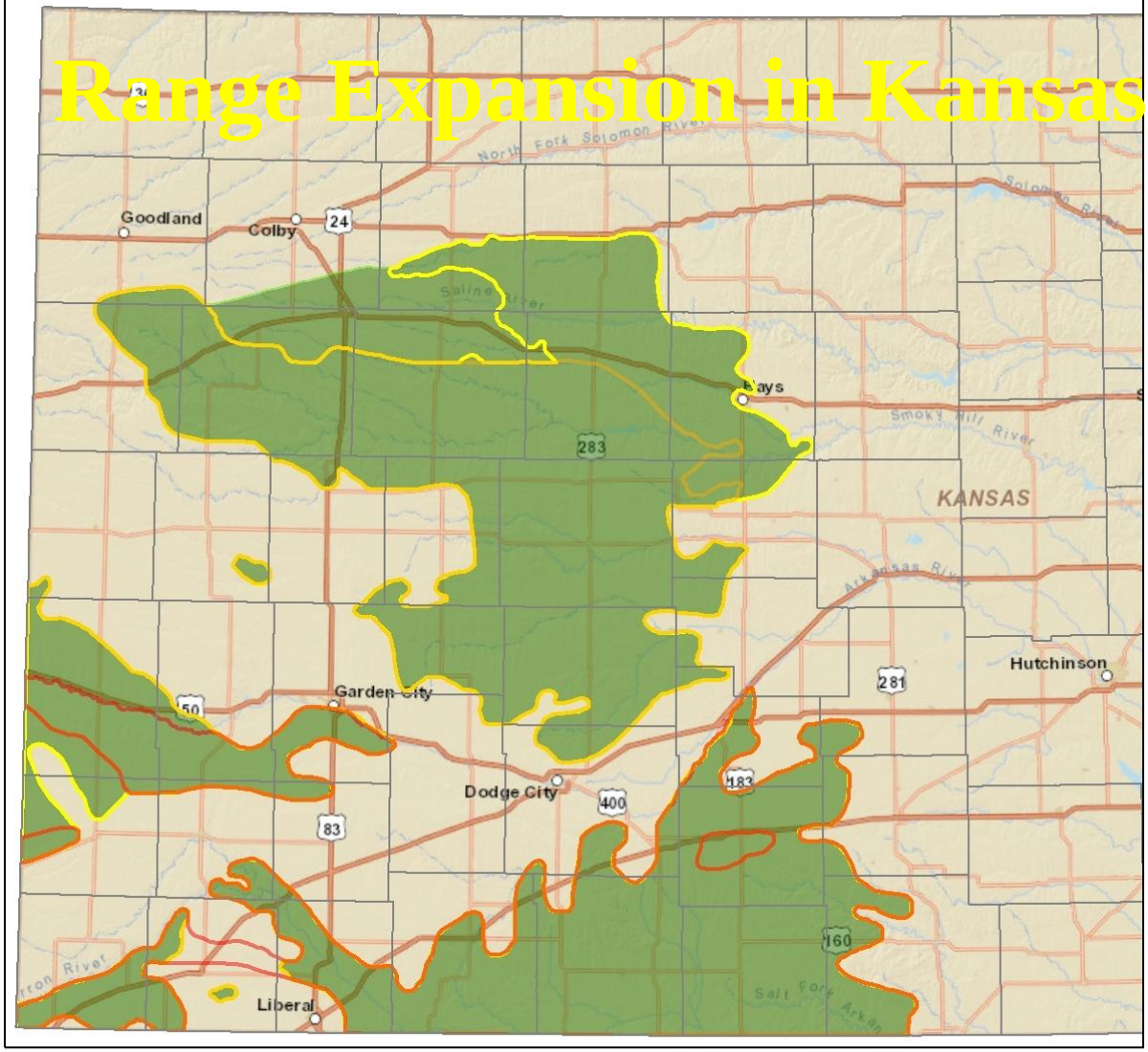


LPC Conservation Actions

Factor 5: Other Factors

- 324 mi of fences marked 80 mi removed
  - Using collision rates of greater sage-grouse
- LEPC have;
  - Smaller lek size and population densities
  - Estimate of 700-900 collisions averted

Range Expansion in Kansas



Estimated Occupied Range	Sq. Miles
Pre 2000	5,555
2009	11,349
2011	13,290
2012	14,246

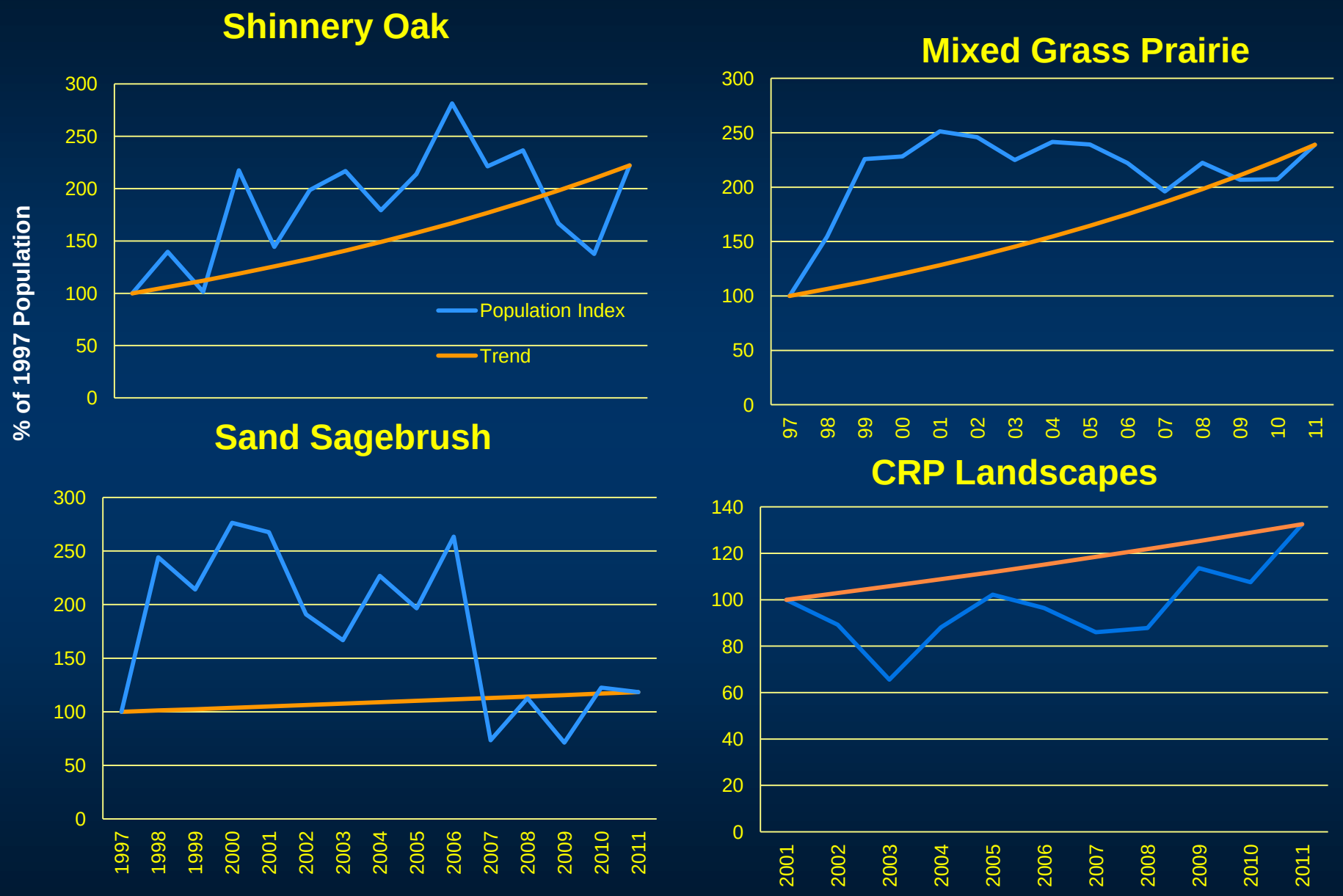
Km
0 10 20 40 60 80

N W E S

"The ***most serious threats*** to the LEPC are ***loss of habitat*** from ***conversion of native rangelands*** to introduced forages and cultivation, recent and anticipated ***conversion of CRP lands*** to cropland, cumulative habitat degradation caused by ***inappropriate livestock grazing*** practices, wind energy development, oil and gas development, ***woody plant invasion*** of open prairies due to fire suppression, inappropriate ***herbicide applications***, and habitat fragmentation caused by structural and transportation developments. (USFWS 2008)"

- **Sod bust loss = 0%**
- **CRP Loss = 2-5%**
- **Wind energy loss = 0.1%**
- **O&G Loss = 4-8%**
- **Total loss = 6-13%**
- **Gain in range = 25%**
- **Net change = +12-19%**

LEPC Population Trends 1997-2011



Take home…

- Nearly all THREATS have been significantly reduced
- or NOT widespread across the range
- Populations are stable despite worst drought on record in 2011-12