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# Harlan County Lake Resource Management Review



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# Harlan County Lake Natural Resource History

- Dam - 1952
- Ag Lease Program
- No Crop Rotations
- Tree Plantings & Parks





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## Changes in 1979/80



- Corps' Specified Crop Rotations
- Removed Grazing Program
- Grass Strips
- Smooth Brome Planted



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## Results of the Change

- 1980's → Grasslands in early successional stages
  - 1990 + → Brome, Cedar, etc... invasion
- >Trees + <Grassland = > **Deer & Turkey** vs <Pheasant

## Time to Tweek the System

- Mid 1990's – Realized problems existed, but no plans to address them
- Priorities shifted to a focus on grassland management



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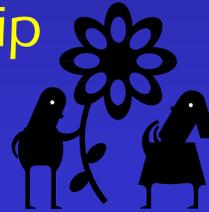


Nebraska Game & Parks Commission

- Met w/NGPC Biologists
- Brain Storm Meeting
  - What would you like to do ???

## The Resulting Partnership

- “Focus on Pheasants”
- 1 of 3 public demonstration areas



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## FOP, Harlan County Style



- Using GIS to manage resources
- Reviewed current research & sought advice from experts
- Changes in the Agricultural Lease Program
  - Wider grass strips
  - Grass blocks
  - Convert crop to grass land
  - Idle Fields
  - Breaking out poor grass in short term leases
  - New Haying Paradigm



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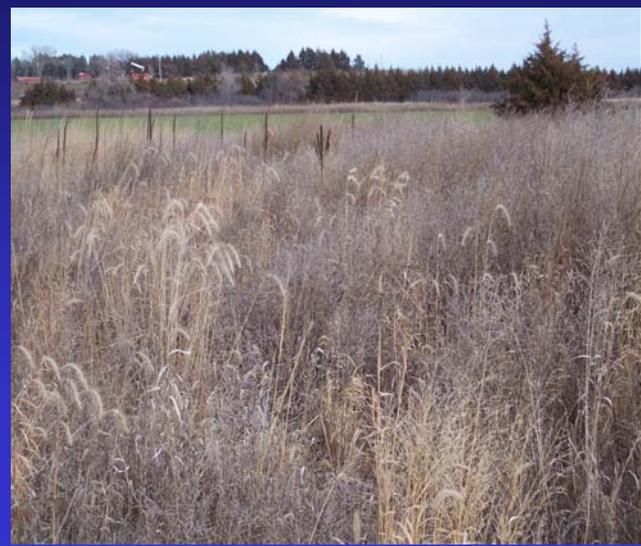


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## Grass Strips/Blocks

- Widen or move
- Blocks of grass
- No Thank You

Smooth Brome  
Red Cedar  
KY Bluegrass  
Etc...





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## Crop Conversion

- Using GIS to determine habitat types and need
- Seed, Equipment, & techniques from Fish & Wildlife Service
- Crop Residue and Broadcast Grass Planting



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## 1<sup>st</sup> Summer FWS Broadcast Seeding





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## 1<sup>st</sup> Winter FWS Broadcast Seeding



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## Why Idle Fields?

- Provide Reliable Brood Rearing Habitat
- 5 Years at a Time
  - Unless Noxious Weed Problem Arises
- 5-15 Acre Blocks
  - Centered in High Row Crop Areas
- Pheasant Factories



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## Breaking Ground

- Worked w/ NRCS
- Timed Ag Leases w/ Incoming Funds
- Round Up Ready Corn then Soybeans as Seed Bed Preparation



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## Existing Grass

- Experimented w/ Glyphosate spraying after warm seasons go dormant
- Using haying to prepare for spraying
- Warm Season Grasses = Round Up Ready





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## 1<sup>st</sup> Spring Following Glyphosate Application



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## 1<sup>st</sup> Summer after Spraying





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## Soil Bank Seed Source vs. Interseeding



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## Interseeding

Species	PLS / Acre	Seeds / lb	Seeds / Acre	\$ / lb	\$ / Acre
Big Bluestem	0.8	130,000	104,000	\$ 4.75	\$ 3.80
Little Bluestem	0.4	260,000	104,000	\$ 7.35	\$ 2.94
Indiangrass	0.4	170,000	68,000	\$ 6.75	\$ 2.70
Switchgrass	0.4	280,000	112,000	\$ 5.50	\$ 2.20
Sideoats Grama	0.4	135,000	54,000	\$ 5.50	\$ 2.20
Blue Grama	0.1	712,000	71,200	\$ 8.50	\$ 0.85
<b>Warm Season Grasses</b>	<b>2.5</b>		<b>442,000</b>		<b>\$14.69</b>
Canada Wildrye	0.3	170,000	51,000	\$ 6.00	\$ 1.80
Virginia Wildrye	0.4	170,000	68,000	\$ 7.00	\$ 2.80
Western Wheatgrass	0.4	120,000	48,000	\$ 6.25	\$ 2.50
Green Needlegrass	0.1	550,000	55,000	\$ 4.95	\$ 0.50
<b>Cool Season Grasses</b>	<b>3.7</b>		<b>222,000</b>		<b>\$ 7.60</b>
Black-eyed Susan	0.03	1,710,000	51,300	\$16.00	\$ 0.48
Blanketflower	0.05	130,000	6,500	\$26.00	\$ 1.30
Coneflower, clasping	0.04	796,000	31,840	\$19.50	\$ 0.78
Coneflower, purple	0.1	150,000	15,000	\$20.00	\$ 2.00
Illinois Bundleflower	0.2	73,000	14,600	\$ 4.00	\$ 0.80
Leadplant	0.02	165,000	3,300	\$145.00	\$ 2.90
Prairieclover, purple	0.05	320,000	16,000	\$12.50	\$ 0.63
Prairieclover, white	0.03	260,000	7,800	\$30.00	\$ 0.90
Sunflower, false	0.05	139,000	6,950	\$75.00	\$ 3.75
Sunflower, maximilian	0.1	208,000	20,800	\$14.00	\$ 1.40
Sunflower, oxeye	0.02	139,000	2,780	\$60.00	\$ 1.20
Alfalfa	0.7	200,000	140,000	\$ 1.35	\$ 0.95
<b>Forbs/Legumes</b>	<b>5.24</b>		<b>316,870</b>		<b>\$17.08</b>
			<b>980,870</b>		<b>\$39.37</b>

Warm/Cool Mix  
w/ Legumes &  
Forbs





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# Disking *in non-native, previously broken, gopher ridden* Grasslands

- South Central PF Chapter
- Experiments
  - Different Grass Types
  - Different Previous Techniques
  - Smooths ground
  - Lessons Learned



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## 1<sup>st</sup> Year





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## 2<sup>nd</sup> Year – *Sweet Clover*



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## Tree Removal



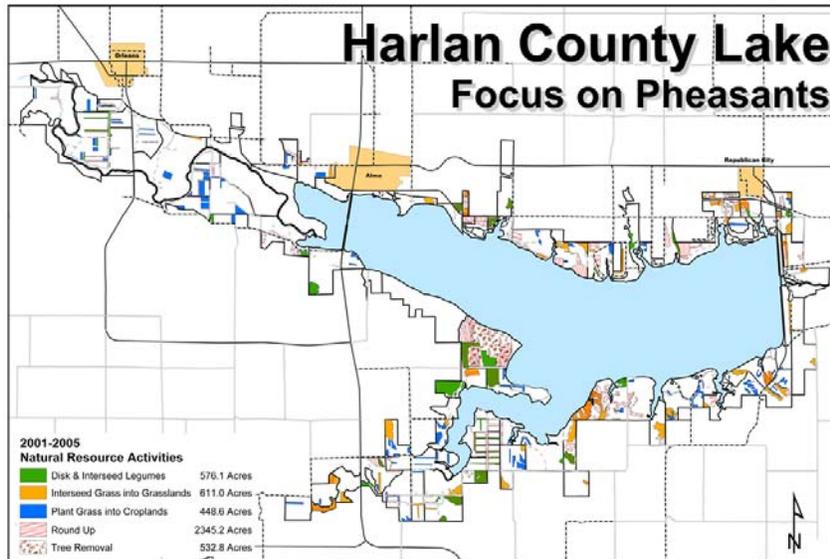


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# Prescribed Burning



## Harlan County Lake Focus on Pheasants





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**Prairie Dog Watching...**  
*A Popular Tourist Activity  
Out West*