Mike Houts
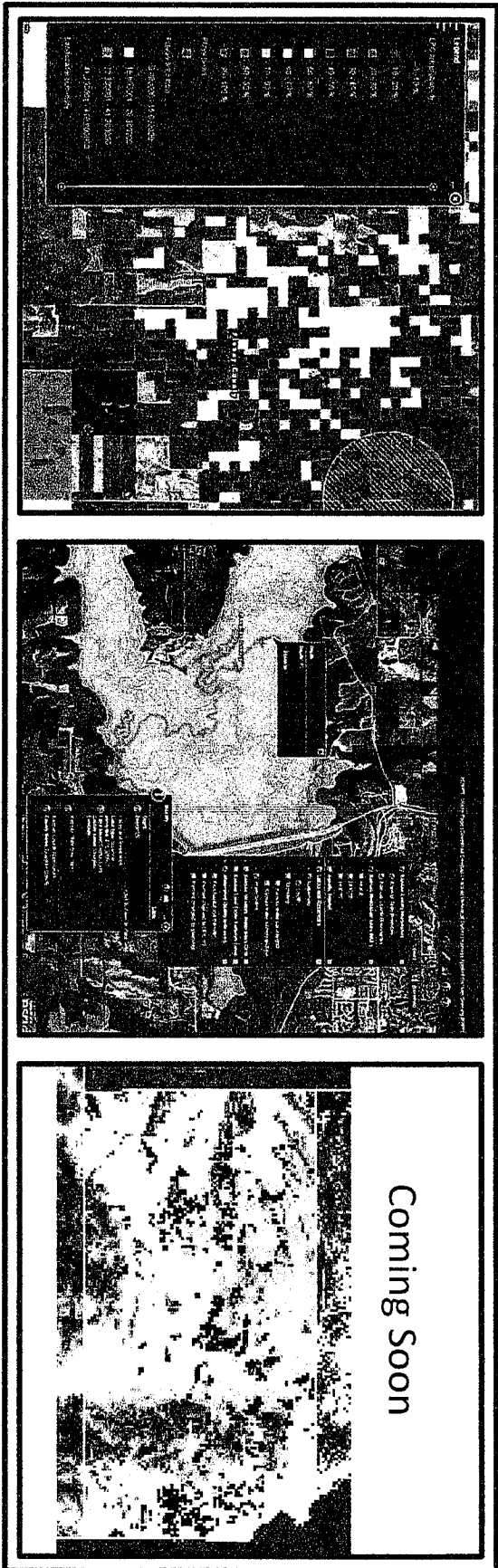
Making Kansas Natural Resource Data Available Through Online Mapping Services

NRP
Natural Resource Planner

KARP
Kansas Aquatic
Resource Planner

WGA CHAT
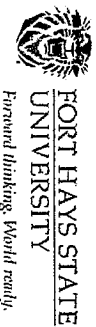Crucial Habitat
Assessment Tool

Coming Soon

Natural Resource Planner created by:

Kansas
Department of Wildlife, Parks
and Tourism

KANSAS BIOLOGICAL SURVEY

KARS
Kansas Applied Remote Sensing

With significant input and contributions from:

U.S. FISH & WILDLIFE SERVICE

The Nature Conservancy
Protecting nature. Preserving life.®

PLAYA LAKES
JOINT VENTURE

KU KANSAS
THE UNIVERSITY OF

K-STATE
Kansas State University

EMPORIA STATE UNIVERSITY™

FORT HAYS STATE UNIVERSITY
Forward thinking. World ready.

The NRP is the result of a consortium of experts
debating and identifying the best available data and/or
professional opinion to assist with site planning.

16-2

Data layers in the Natural Resource Planner

Base data

State boundary
County boundaries
PLSS 1-mile grid
Major highways
Aerial imagery/Streets/Topo...

Industry specific

Proposed and current wind farms
Existing turbine locations
Transmission lines
Power plants
Mean wind speed
Oil/gas wells (# per section)

Natural resources

Land cover map (2005)
Water bodies
Managed areas
Sensitive species
Prairie chicken range
Prairie chicken habitat
Whooping crane corridor
Playa lakes
Landscape metrics (by section)
  % native, warm season grasses
  % cropland
  sum of playa area
  total number of playas

16-3

Kansas Natural Resource Planner

Kansas Natural Resource Planner

KU KANSAS BIOLOGICAL SURVEY
The University of Kansas

Kansas
Natural Resource Planner
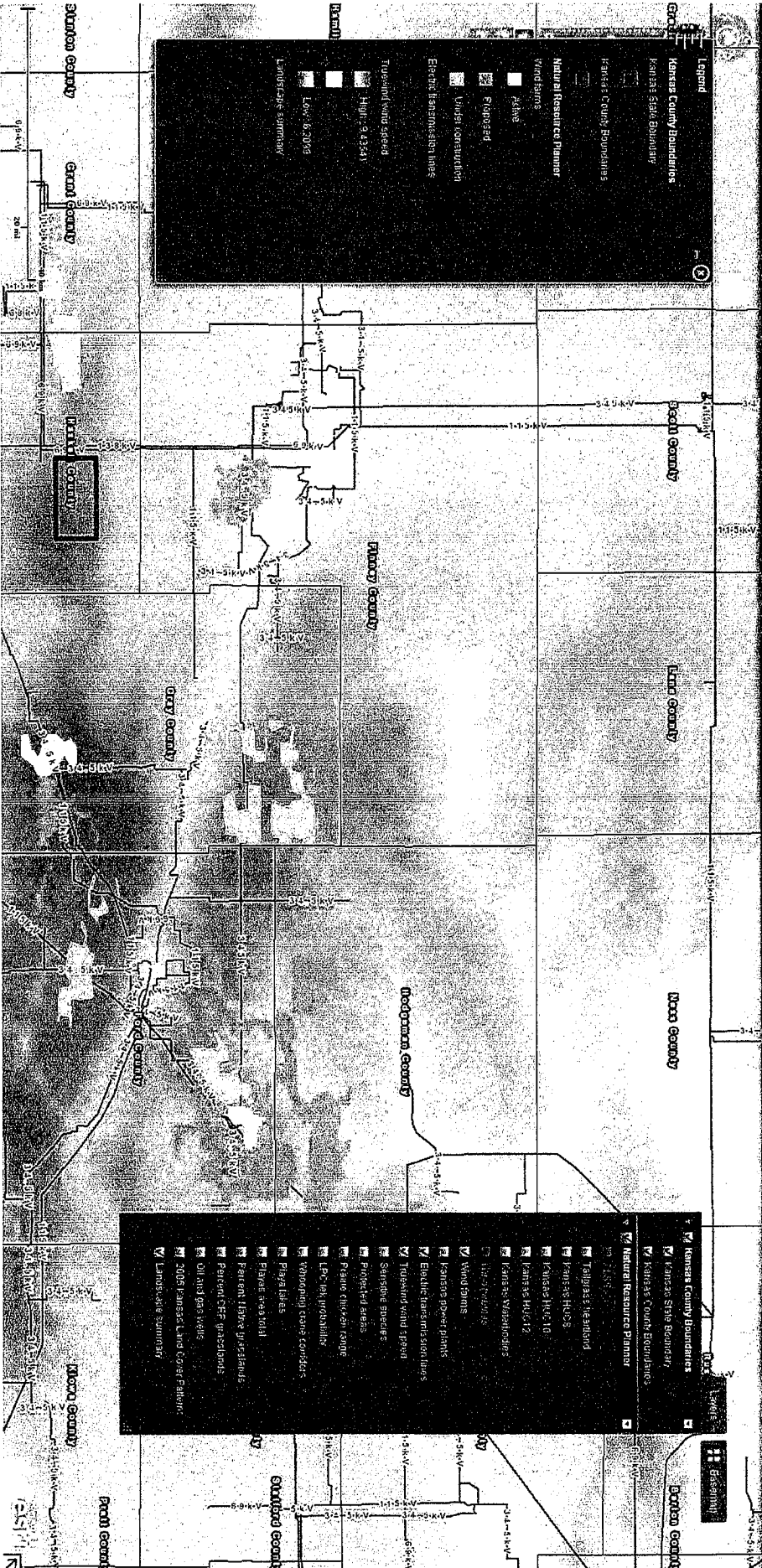
KDWP — Home Page | User Guide | Metadata | Additional resources | View in ArcMap | Download Geodata | Web Service Contents | Kansas Biological Survey | Kansas Applied Remote Sensing (KARS)

Legend

Natural Resource Planner

Wind farms

- Active
- Proposed
- Under construction

Kansas power plants

1. Fossil Steam
2. Combustion Turbine
3. Internal Combustion
4. Combinations
5. Nuclear Steam

Electric transmission lines

Oil and gas wells
- 0
- 1
- 2 - 4
- 5 - 16
- 17 - 48
- 49 - 200

Layers   Basemap

Natural Resource Planner

- Kansas County Boundaries
- Kansas State Boundary
- Kansas County Boundaries
- Tallgrass heartland
- Kansas LHCR
- Kansas LRC10
- Kansas LRC12
- Kansas Waterbodies
- Wind farms
- Kansas power plants
- Electric transmission lines
- Inuswinil Wind Speed
- Sensitive species
- Protected areas
- LPC tot probability
- Prairie chicken range
- Whooping crane corridors
- Playas area total
- Percent Native grasslands
- Percent CRP grasslands
- Oil and gas wells
- 2005 Kansas Land Cover Pattern
- Landscape summary

POWERED BY esri

16-5

Using the NRP to examine grassland habitats

16-6

Using the NRP to examine potential impacts

16-7

Using the NRP to examine potential impacts

16-8

NRP currently updating several datasets:

Active oil/gas wells, calculating difference since 2010

● Active Wells (Feb 2010)
apx 150,000

● Permits Issued (Mar 2010 - Sept 25, 2012)
apx 9,000

0 25 50 100 Km

16-9
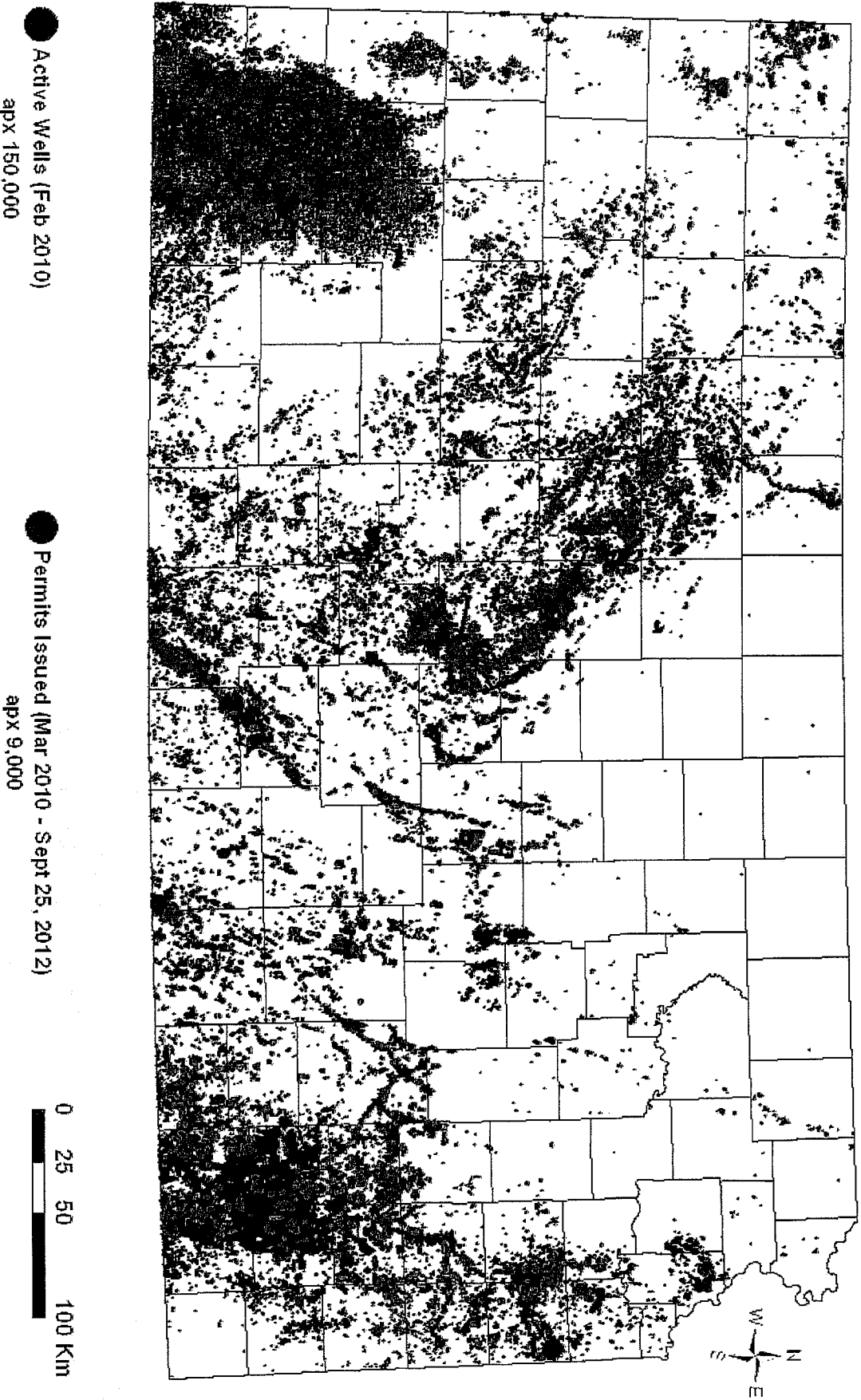
NRP - Is It Being Used, Is it Useful?

Total uses: 10,000 -12,000 since August 2009

Average about 200 uses per month

Prior to NRP:

Project site planning and **approval often took months to years**

Lots of back-forth to the field and GIS data was less accessible

Developers were sometimes **unaware of data and assessment requirements**

With NRP:

Projects often come to KDWP **already situated to avoid conflict areas**

Speeds up processing significantly (couple weeks...if necessary)

Open understanding of landscape variables of concern, and their distribution

The Kansas Aquatic Resource Planner (KARP)
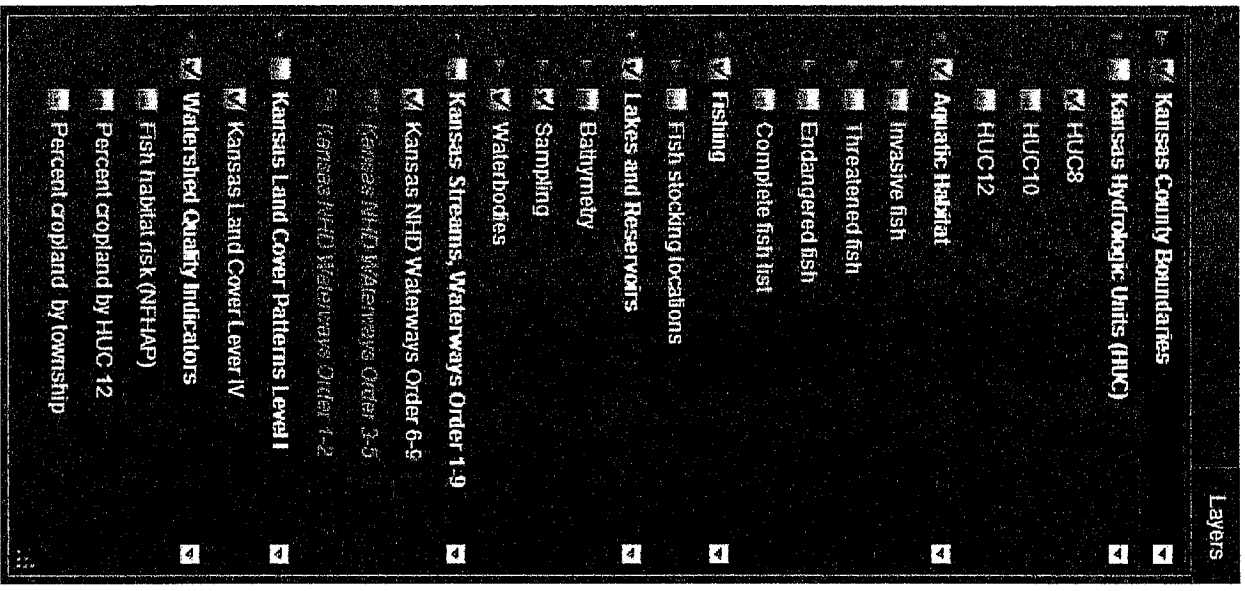
Data currently in the KARP include:

Hydrologic Units – HUC 8, 10, 12 units

Aquatic Habitat

    Invasive species, modeled habitat

Fishing

    Trout stocking locations

Lakes and Reservoirs

    Reservoir depths

    Sampling grid

Waterways

    Streams by Strahler order

Land cover

Watershed quality indicators

    NHFAP

    Percent cropland

kars.ku.edu/aquaticresourceplanner

Reservoir Depths

KDWPr - Home Page | Download Geodata | Kansas Biological Survey | Kansas re App

Depth
Depth: 25
Zoom to

Layers

- Kansas County Boundaries
- Kansas State Boundary
- Kansas County boundaries
- Kansas hydrologic limits (HUC)
- HUC12
- HUC10
- HUC8
- Lakes and Reservoirs
- Aquatic Habitat
- Bathymetry
- Depth
- Sampling
- Kansas water sampled grid
- Kansas water sampled poi
- Waterbodies
- Kansas Streams, Waterways Grid
- Kansas Land Cover Patterns Level
- Watershed Quality Indicators
- Fish habitat risk (NFHAP)
- Percent cropland by HUC 12
- Percent cropland by township

Identify
Depth
Depth: 25

Lakes and Reservoirs
Lake type: reservoir
elevation: 876.320007
Lake name: Clinton Lake
County name: Douglas
Bathdate:

Kansas State Boundary

Kansas County Boundaries

County Name: Douglas County

Click to Zoom to Panel
Clear

Invasive Species

- Zebra mussel
- Asian carp
- White perch

16-12

**Fish Habitat Probability
(Topeka Shiner)**

**Fish Habitat Risk by Watershed
(National Fish Habitat Action Plan)**

16-13

Western Governors Association Wildlife Council's initiative to map Crucial Habitats across Western United States

Wildlife personnel from 17 western states tasked with identifying and prioritizing important wildlife habitats
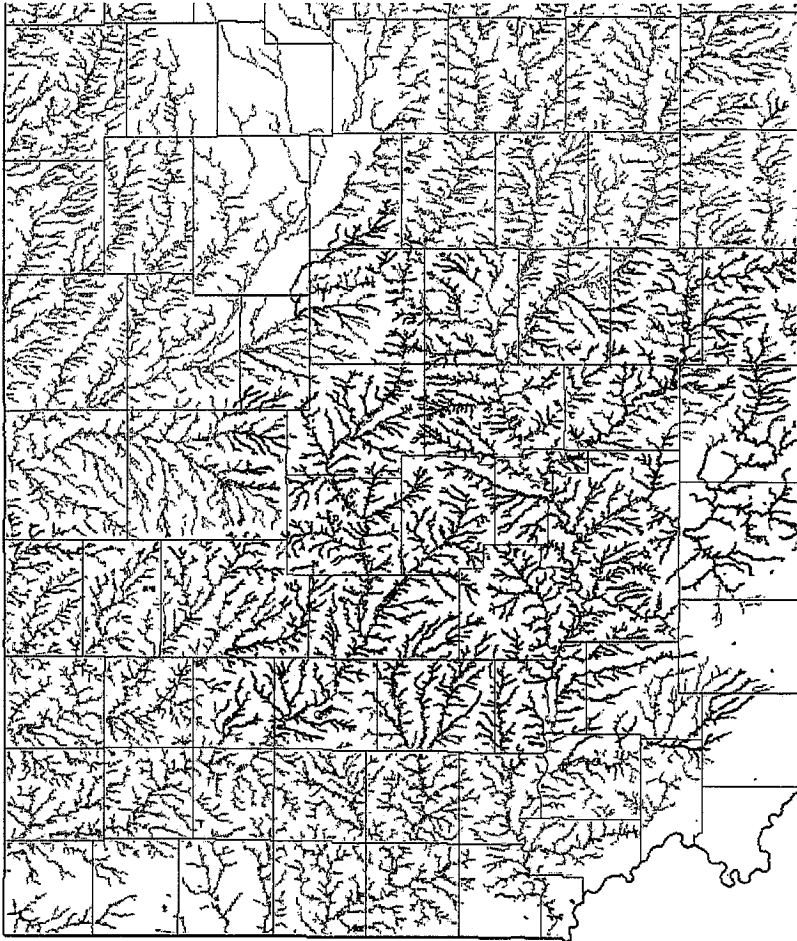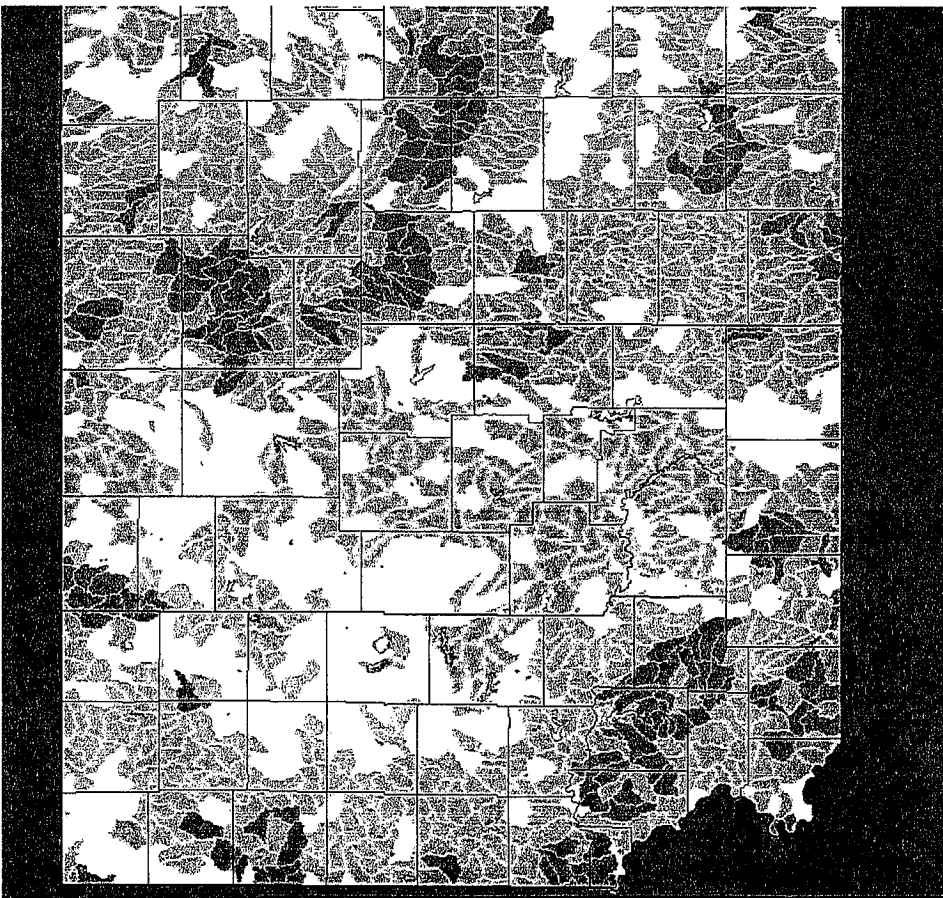
"Crucial Habitats" across the west created from:

- Species and Habitats of concern
- Unfragmented lands (Large Intact Blocks)
- Terrestrial game and sport fish
- Wildlife Corridors
- Ecological Systems of Concern
- State specific data and priorities

Objective if WGA CHAT is to provide regional/course scale guidance to help with large scale and/or interstate project planning

Alert developers of potential conflicts in a region, and then direct them to more specific state data resources (NRP), and local biologists to conduct site specific analysis.

The CHAT, and even the NRP, are not explicit development "go/no-go" maps. They are early planning tools to help facilitate smart and efficient resource development /management.

Westwide Crucial Habitat-Beta

Download Geodata | Web Service Contents | Western Governors' Association | Kansas Biological Survey | Kansas Applied Remote Sensing (KARS)

Layers   Basemap

☑ Base Layers

☑ Crucial Habitat
- Arizona
- California
- Colorado
- Idaho
- Kansas
- Montana
- Nebraska
- Nevada
- New Mexico
- Oklahoma
- Oregon - Aquatic Habitat
- South Dakota
- Utah
- Washington
- Wyoming

☑ Landscape Integrity
☑ Corridors
Landscape Condition - List

esri

16-16

NRP, KARP, SGP CHAT

Dynamic datasets updated as necessary*
to reflect changes in landscape condition
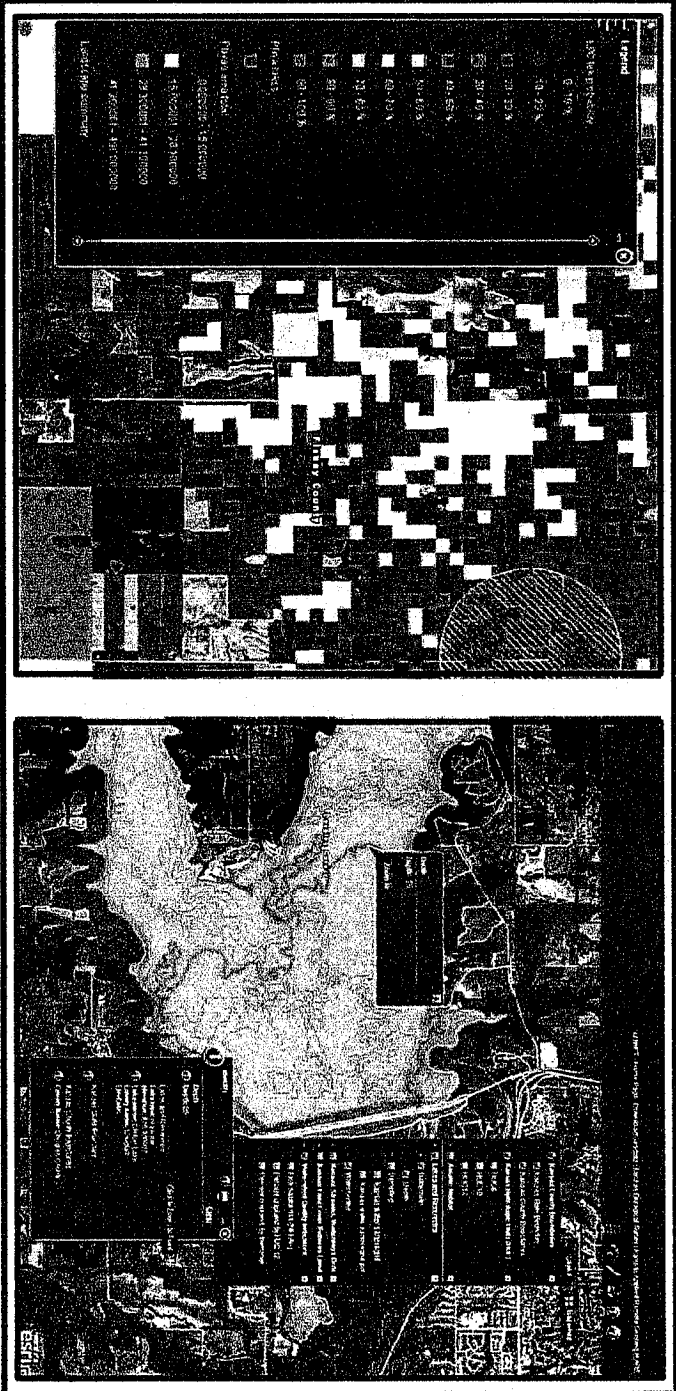and changes in wildlife/habitat knowledge.

Frequent enough to be current/useful,
static enough to provide planning consistency

Kansas Natural Resource Planner
www.kars.ku.edu/naturalresourcedeplanner

Kansas Aquatic Resource Planner
www.kars.ku.edu/aquaticresourceplanner

Michael Houts, mhouts@ku.edu

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