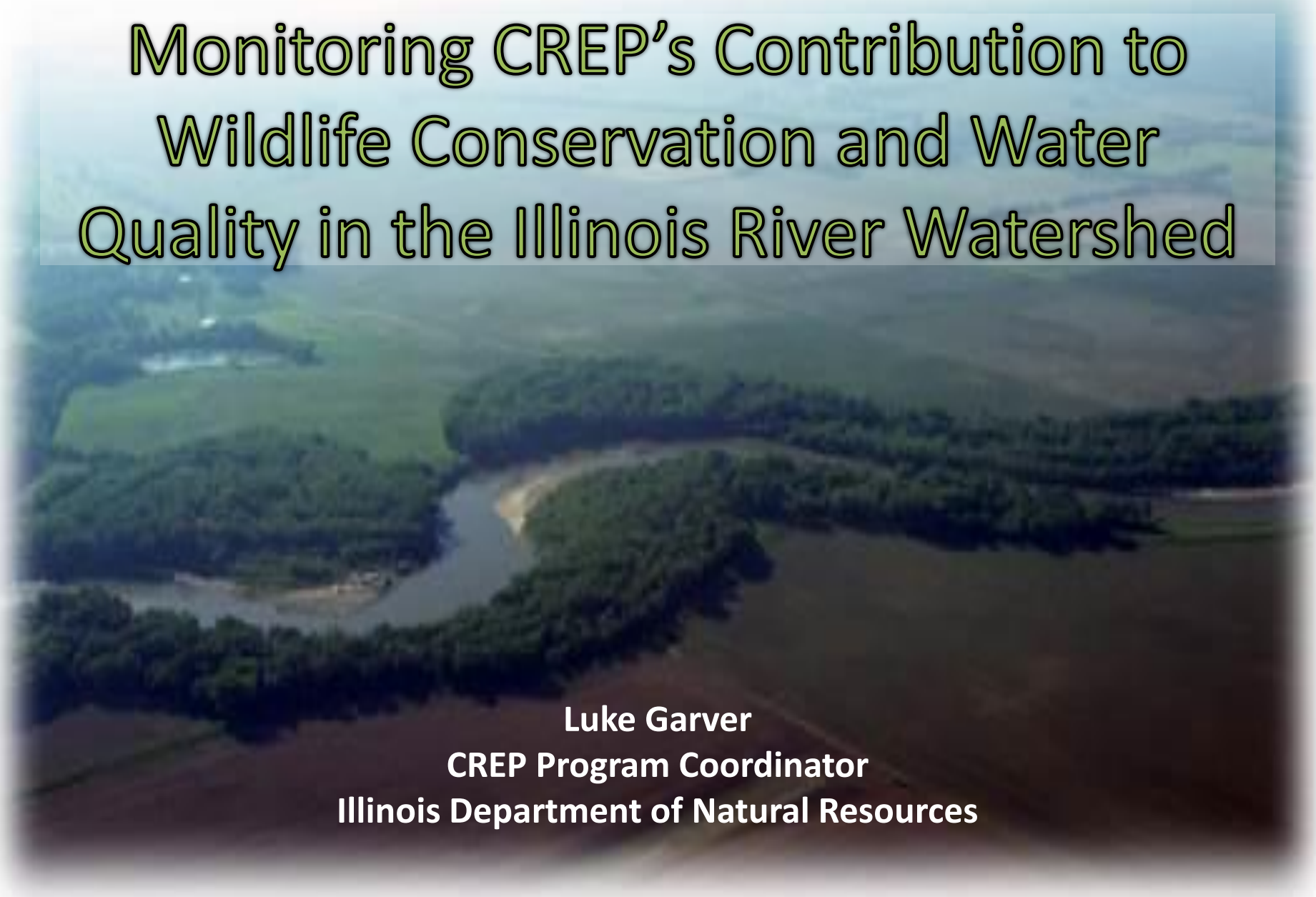
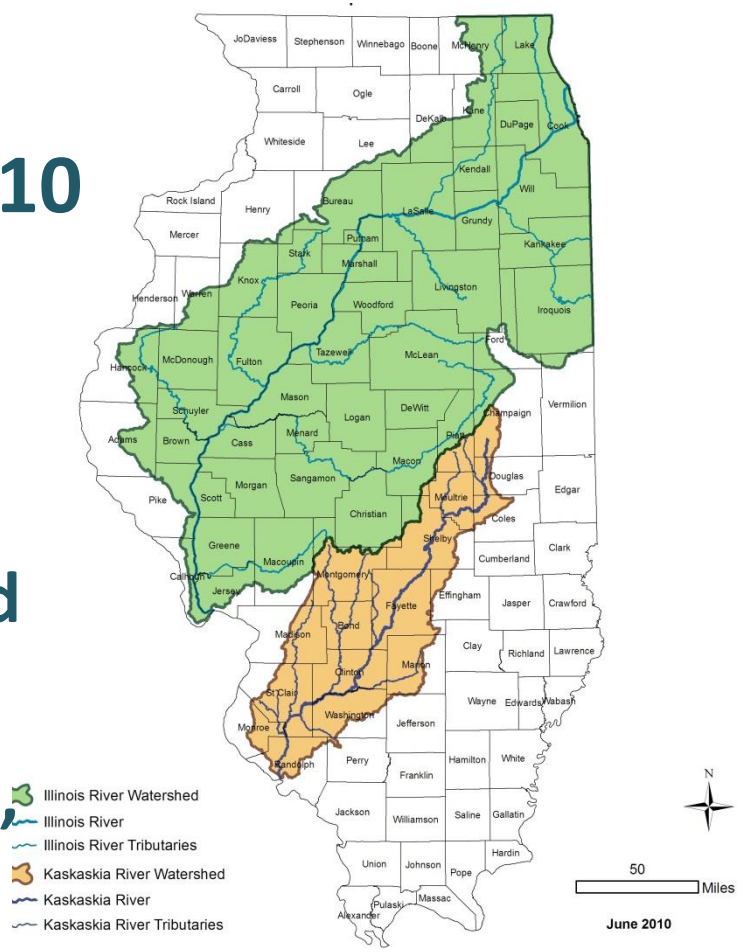
Monitoring CREP's Contribution to Wildlife Conservation and Water Quality in the Illinois River Watershed



Luke Garver
CREP Program Coordinator
Illinois Department of Natural Resources

Conservation Reserve Enhancement Program in Illinois

- Enrollments began in 1998, Reopened in 2010 with Kaskaskia
  - 1,396 Executed CREP Easements Statewide
  - 90,150 acres protected statewide
  - >50% restored habitat, formerly cropland

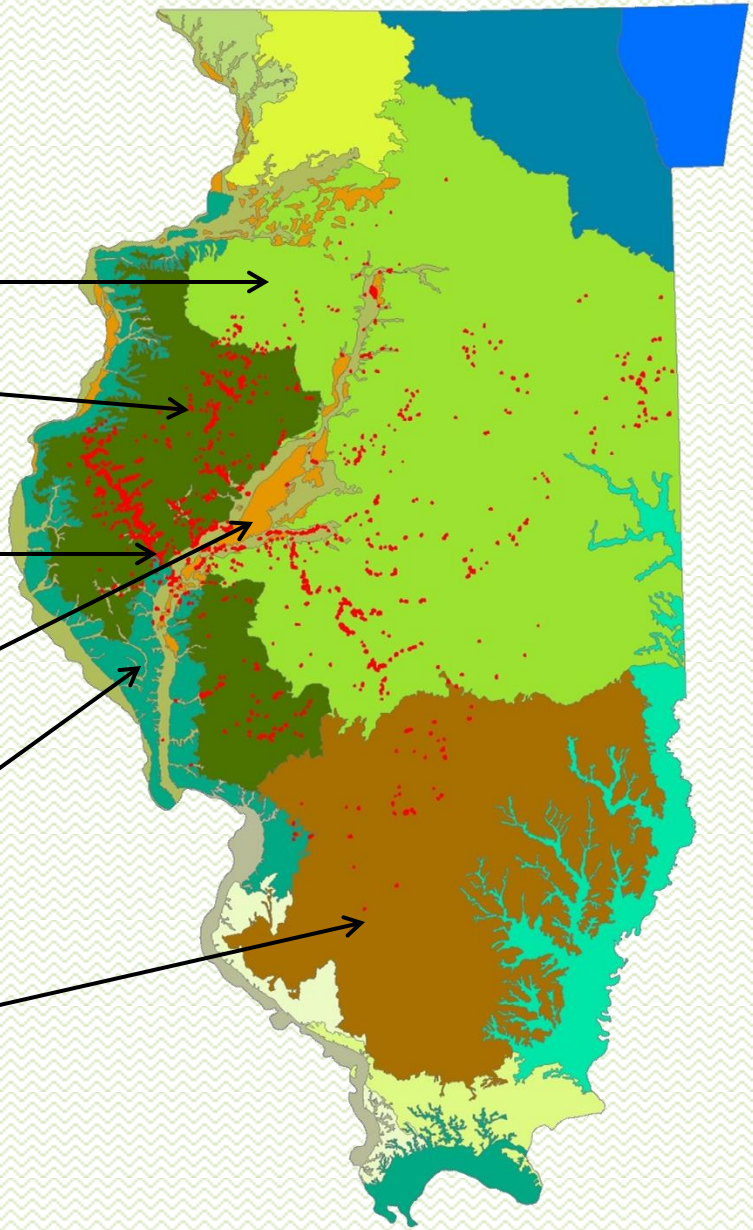


Where are we now?

- Which habitat types have been restored and protected?
- What benefits are we seeing locally and statewide in terms of water quality and habitat restoration?

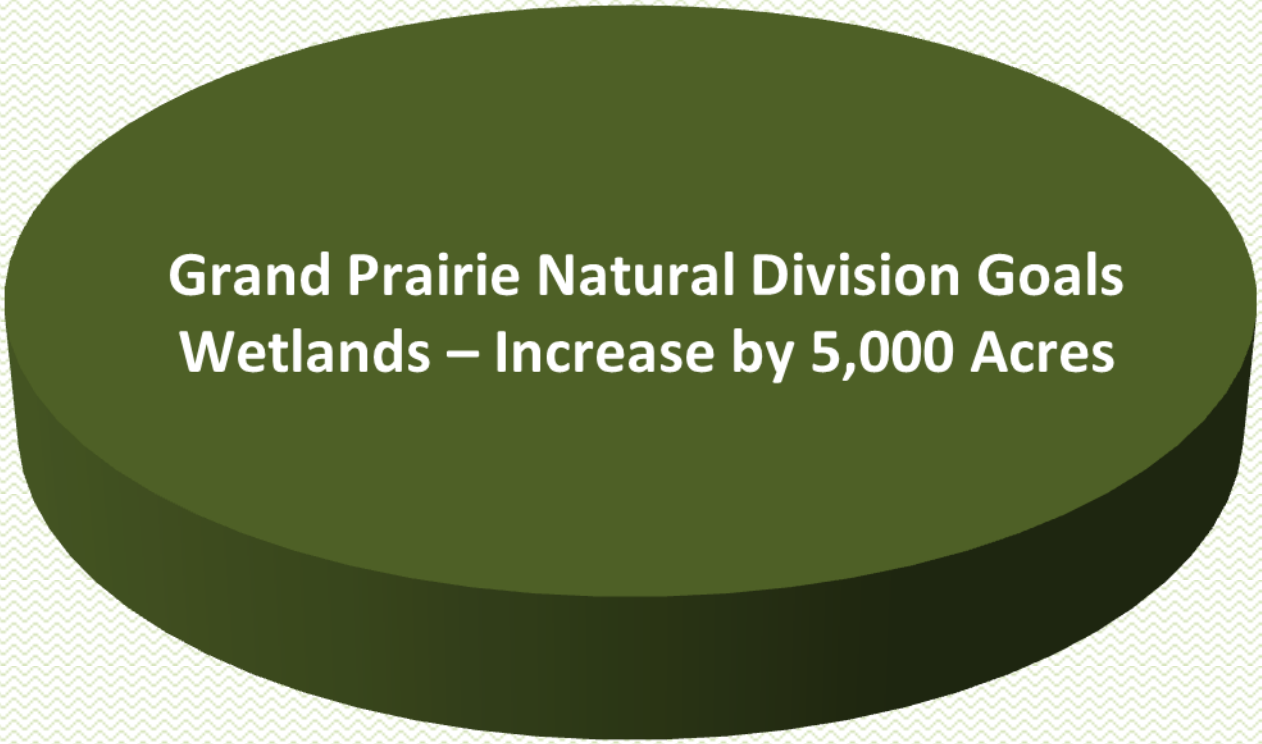
CREP's Contribution to IWAP Habitat Goals

- **CREP Easements occur in six Natural Divisions**
  - Grand Prairie
  - Western Forest-Prairie
  - Upper Mississippi River and Illinois River Bottomlands
  - Illinois River and Mississippi River Sand Areas
  - Middle Mississippi River Border
  - Southern Till Plain



CREP's Contribution to IWAP Habitat Goals

- Illinois Wildlife Action Plan acreage goals for habitats in each Division
- CREP has contributed to many of these goals
- Habitat types categorized by Federal Conservation Practice
  - Wetlands (CP23 and CP9)



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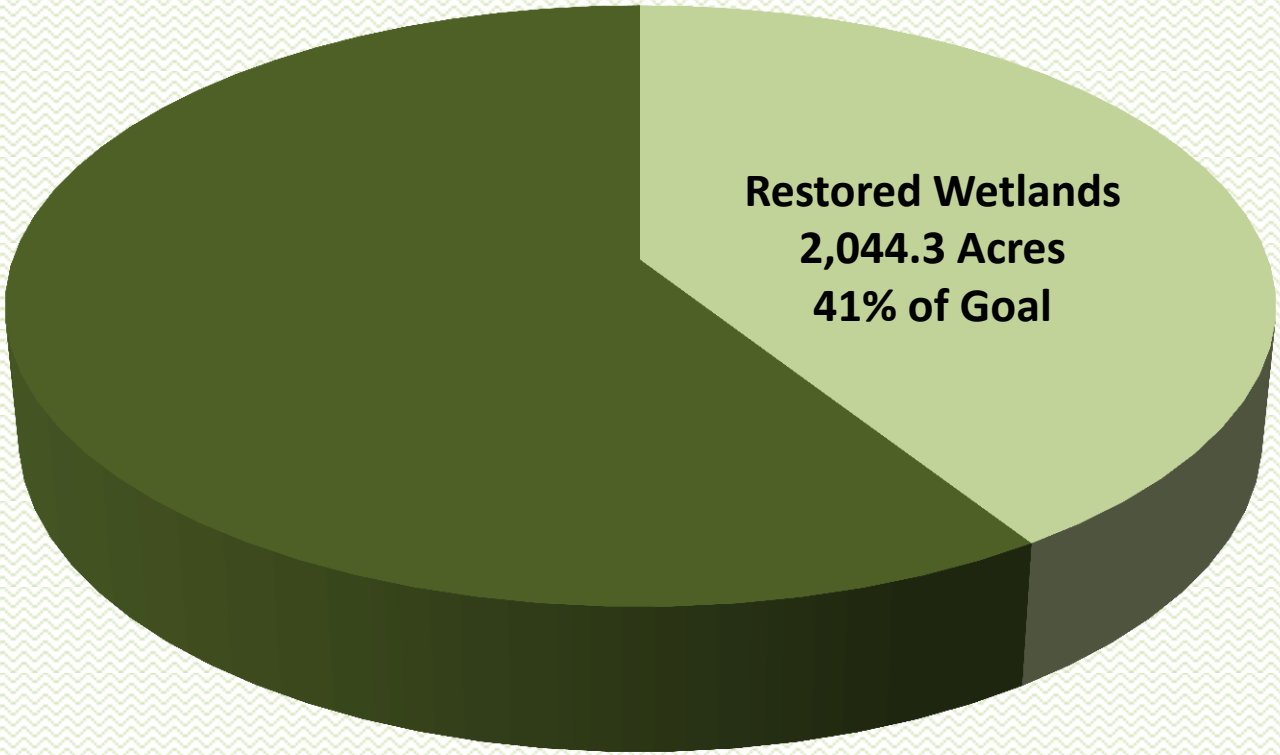

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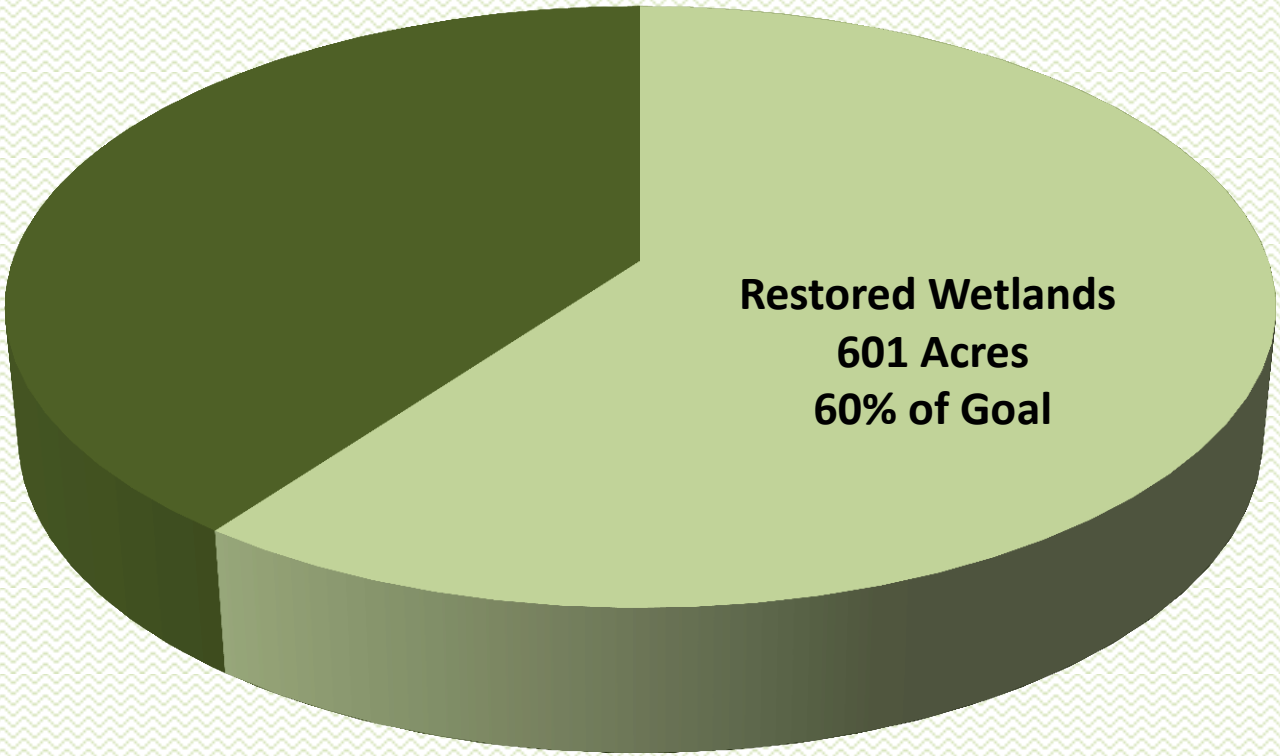

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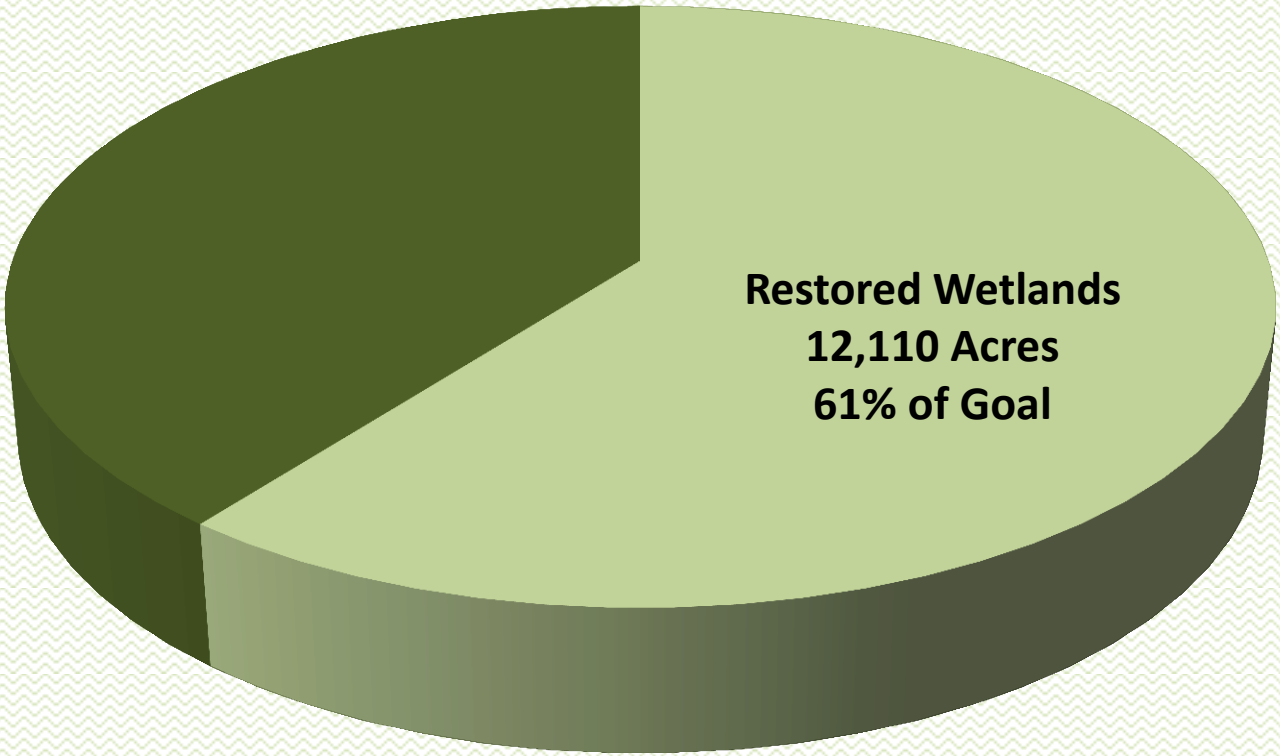


CREP's Contribution to IWAP Habitat Goals

- **Other large contributions to IWAP Goals:**
  - **Western-Forest Prairie, no wetland goals**
    - **7500+ acres restored wetlands**
  - **Forest habitat contributions (CP3a, CP11, CP22)**
    - **GP – *8,588* acres; *15%***
    - **UMIRB – *2,426* acres; *7%***
    - **WFP – *9,249* acres; *20%***

Protected Land

- **The contributions don't include Additional Acres because IWAP specifies goals as "net increase" in acres**
  - ***~10,000 ac*** **wetland protected**
  - ***~21,000 ac*** **forest protected**
  - **~5,500 ac grassland protected**

National Land Cover Database -Homer, C.G., Dewitz, J.A., Yang, L., Jin, S., Danielson, P., Xian, G., Coulston, J., Herold, N.D., Wickham, J.D., and Megown, K., 2015, Completion of the 2011 National Land Cover Database for the conterminous United States-Representing a decade of land cover change information. *Photogrammetric Engineering and Remote Sensing*, v. 81, no. 5, p. 345-354

Opportunities to Improve

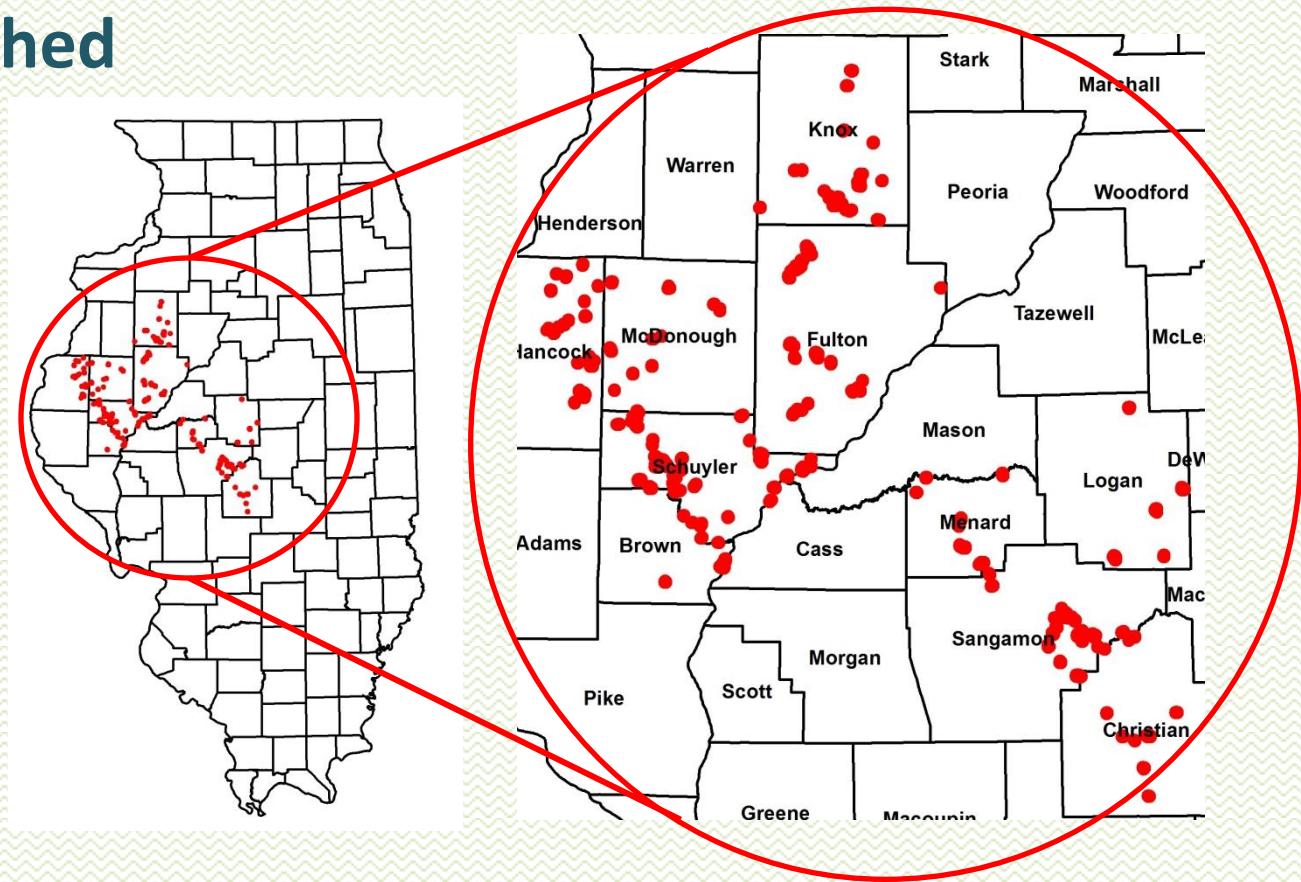
- Grasslands
  - CP2, CP4d, CP10, CP21, CP25
  - Restored- 7,200 total acres (1.5% avg)
  - Protected- 5,500 total acres

- Open Woodland/Savanna
  - No acres
  - Practices rarely implement these habitats
  - Management needed on Additional Acres

Monitoring Wildlife Benefits of Private-lands Programs in Illinois

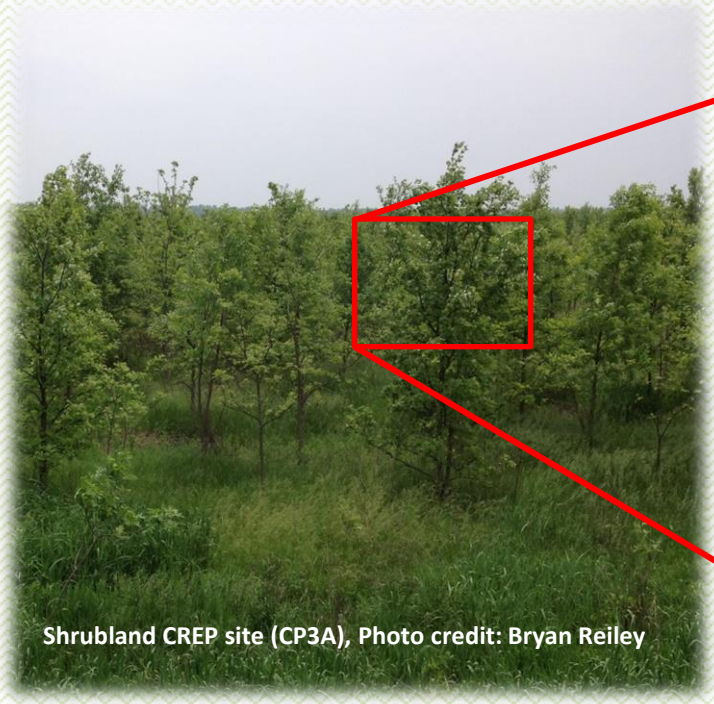
- TJ Benson and Bryan Reiley
  - Monitoring program for birds on CREP in Illinois River Watershed
    - 180 sites
    - >7 acres
    - Practices:

CP4D, CP3A, CP22, CP23



Monitoring Wildlife Benefits of Private-lands Programs in Illinois

- Point Count Surveys conducted at multiple locations on each site
  - Number of species detected
  - Species density estimates



Shrubland CREP site (CP3A), Photo credit: Bryan Reiley

Bell's Vireo, (Photo credit : Bryan Reiley)

Monitoring Wildlife Benefits of Private-lands Programs in Illinois

- Using density estimates, extrapolate number of each species occurring on CREP statewide
  - Preliminary results: CREP sites may be providing habitat to a number of species of concern

Monitoring Wildlife Benefits of Private-lands Programs in Illinois

- IWAP Species of Concern
  - Population Goals
  - CREP Contribution Towards Goals

Monitoring Wildlife Benefits of Private-lands Programs in Illinois

- Additional Research:
  - Nesting Ecology of Bell's Vireo, Willow Flycatcher, Field Sparrow, and Brown Thrasher


Bell's Vireo, (Photo credit : Bryan Reiley)

- Future Research
  - Effects of management on species richness and abundance
  - Most effective techniques to boost IWAP goals

CREP's Contribution to Nutrient and Sediment Load Reduction

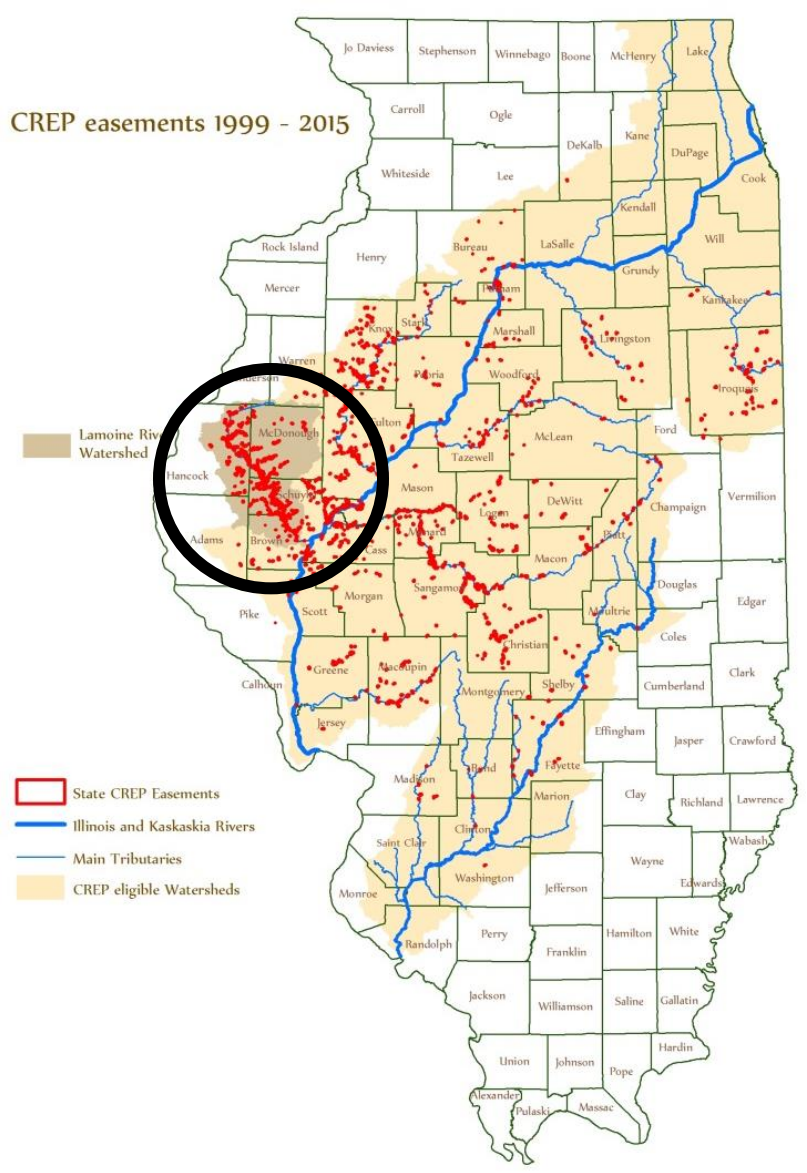
2015 Illinois Nutrient Loss Reduction Strategy Science Assessment:

IL ag runoff contributes to 80% of the total N and 48% of the total P losses

CREP provides a framework for permanently restoring critical habitats, increasing plant diversity, and expanding existing native land cover in a predominantly agricultural landscape

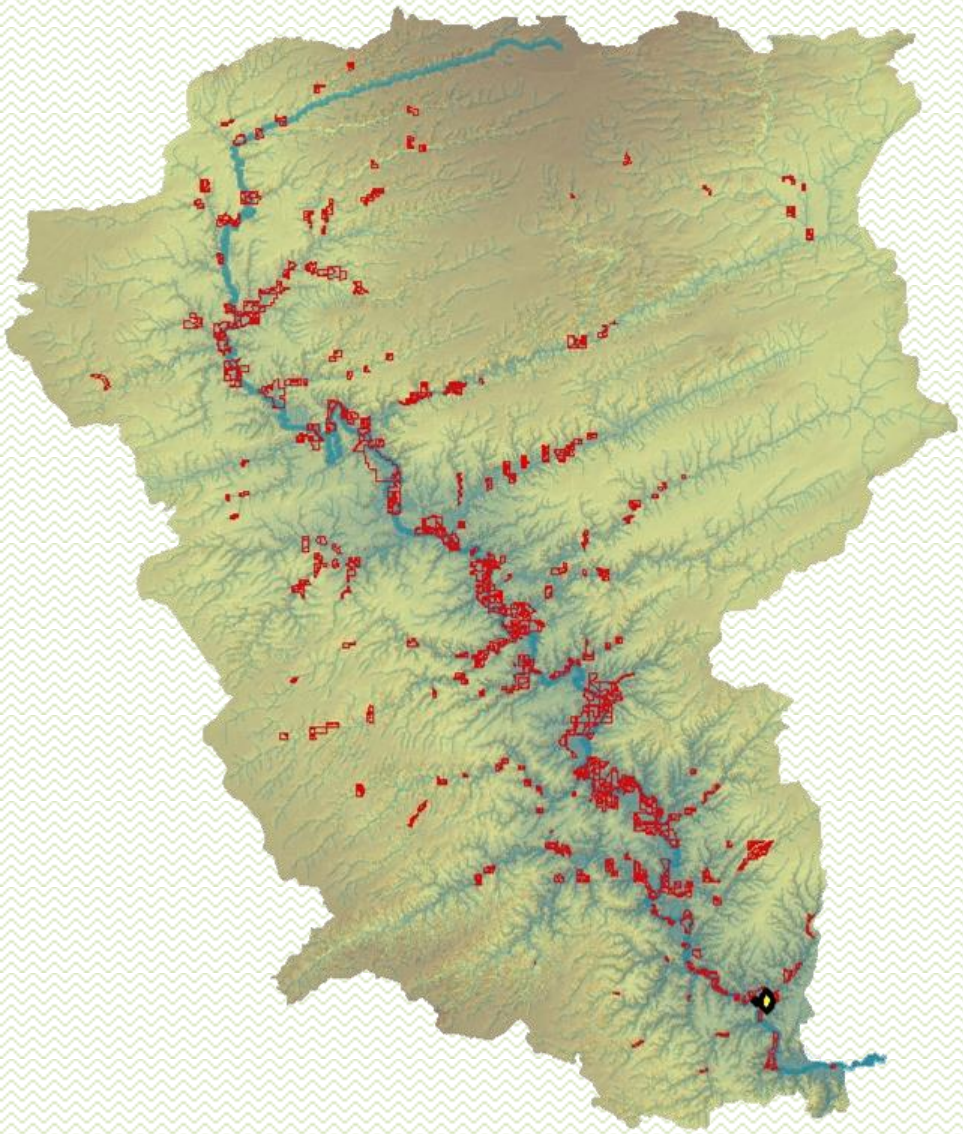
A Closer Look at the La Moine

- CREP provides immediate local benefit
  - Financial
  - Conservation
  - Recreation
  - Water Quality
- Cumulative effects of multiple enrollments benefit entire watersheds



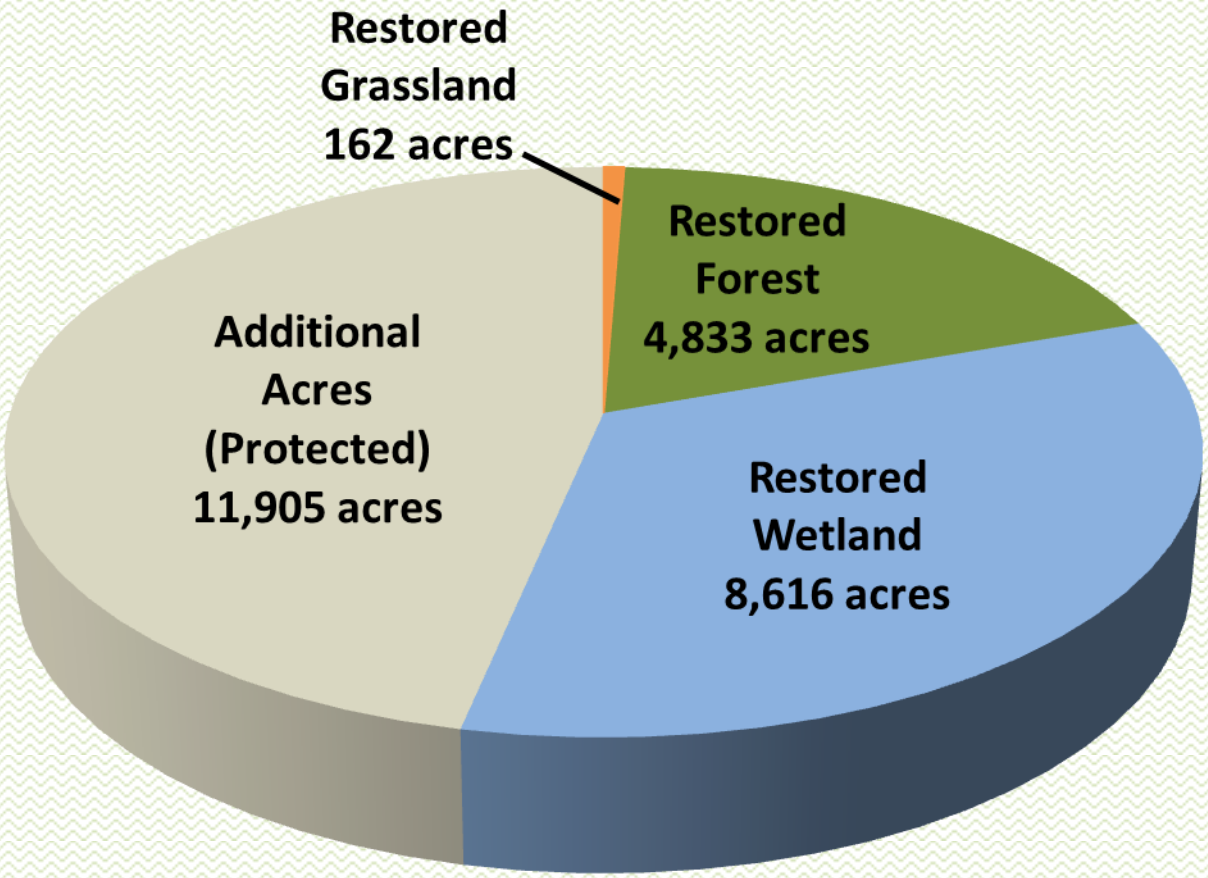
A Closer Look at the La Moine

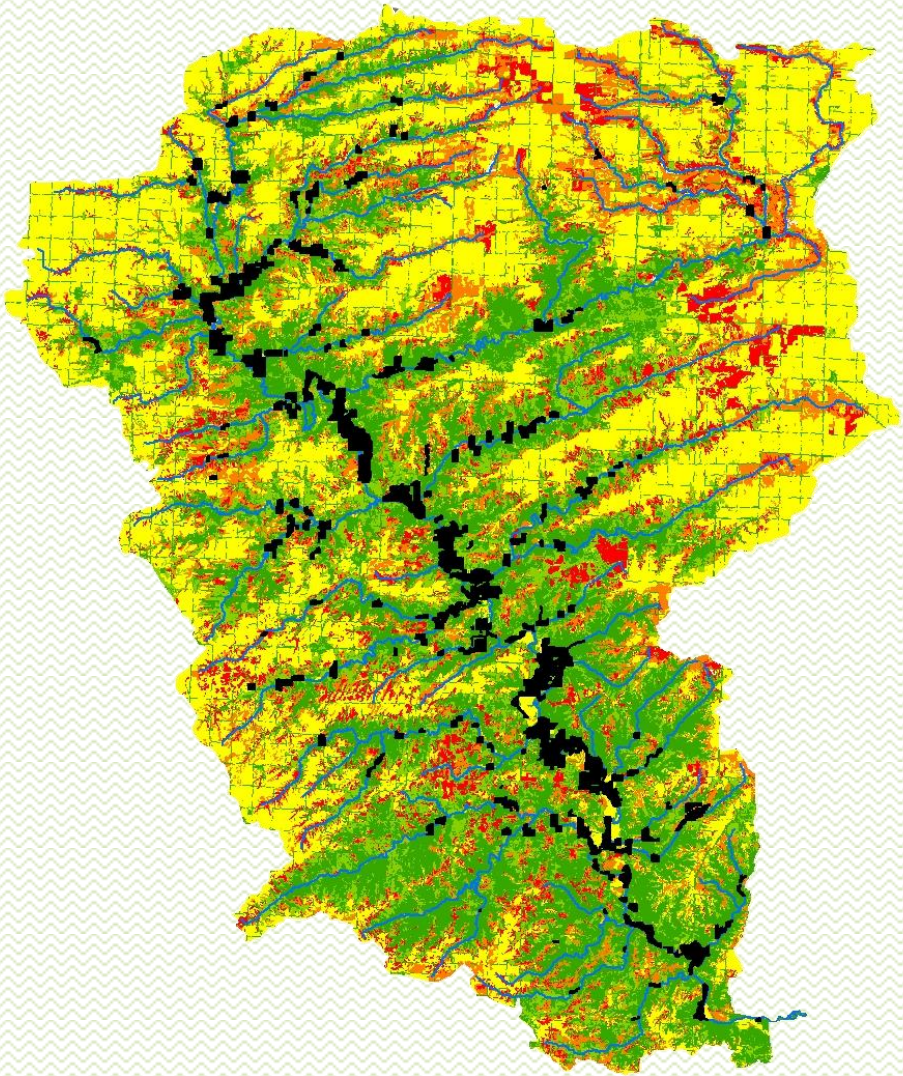
- 131 miles long
  - 92 miles flow through CREP easements
  - 70% under long-term protection



A Closer Look at the La Moine

- **326 CREP Easements**
  - 25,500 acres of protected land / habitat
  - 13,611 (>50%) converted from cropland

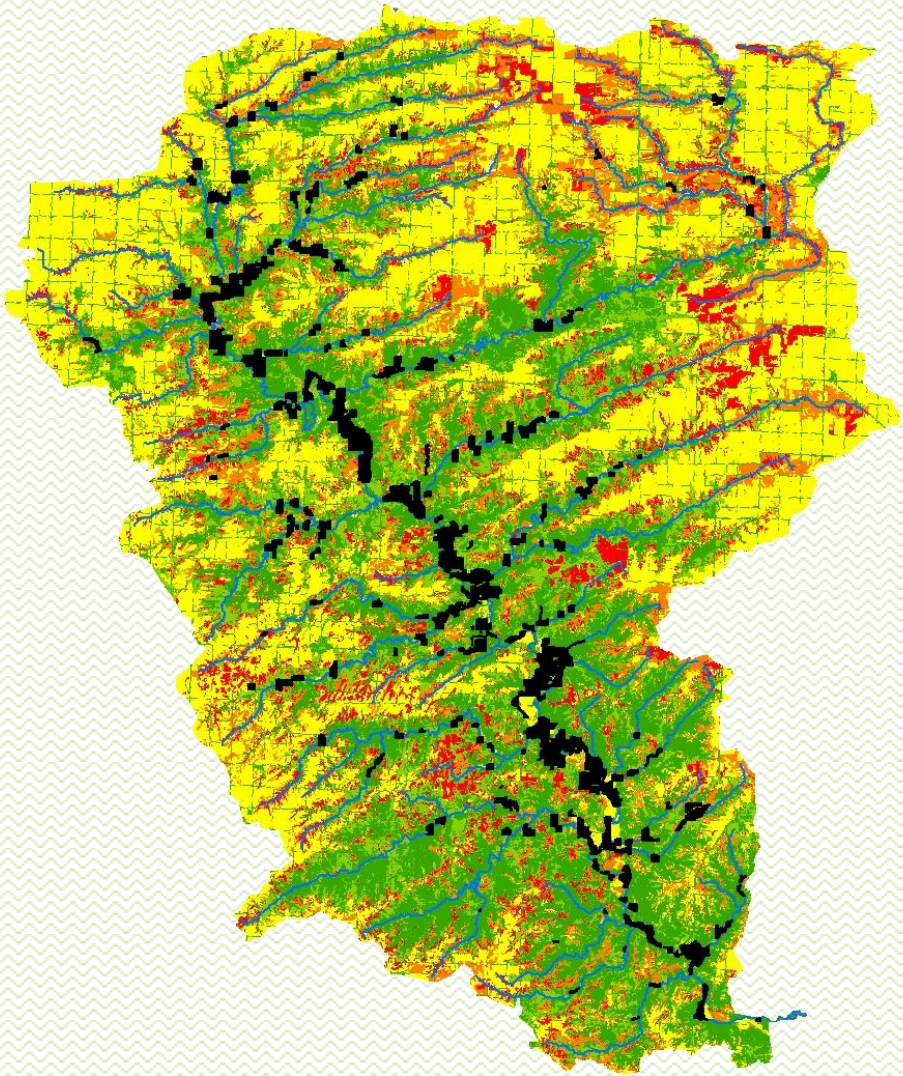




Total annual
Nitrogen load per acre

- 0 - 5 lbs/ac
- 5 - 15 lbs/ac
- 15 - 20 lbs/ac
- 20 - 25 lbs/ac
- 25 + lbs/ac

Per EPA recommendation, the following averages are used :
For every T of soil saved, 1 lb of P and for 2 lb of N



- **Predicted Average Annual Soil Loss (ton/acre/yr) = USLE**
  - **Sediment reduction 44,995 tons**
  - **P load reduction 44,995 lbs**
  - **N load reduction 89,990 lbs**

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Acknowledgements

Questions?