Stone Soup Conservation

Responding to Landscape Challenges in the Eastern Tallgrass Prairie & Big Rivers Landscape Conservation Cooperative (LCC)

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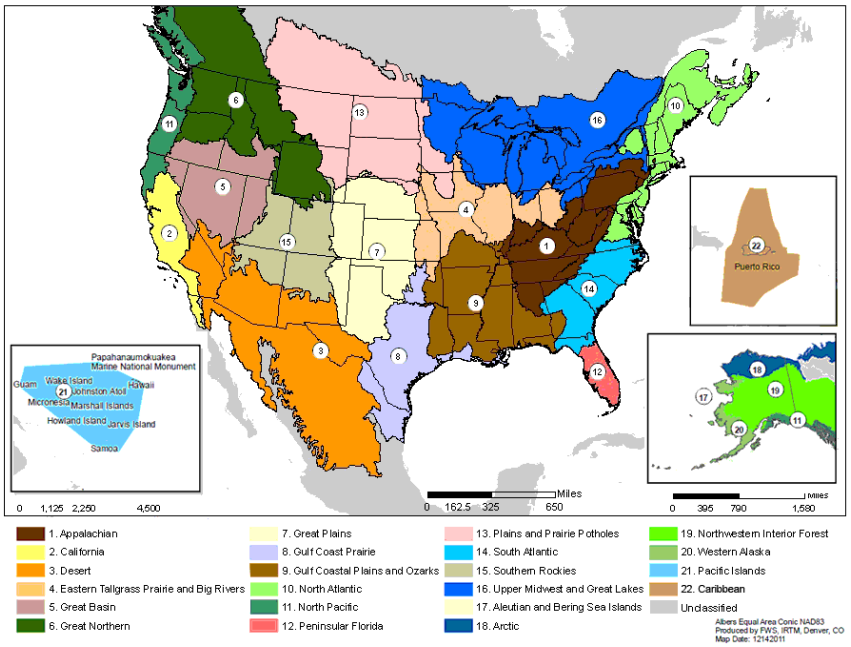
USFWS Landscape Conservation Cooperatives (LCC) initiative



Secretarial Order 3289

THE SECRETARY OF THE INTERIOR
WASHINGTON

ORDER NO. 3289

Subject: Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources

Sec. 1 **Purpose and Background**. Secretarial Order No. 3285, issued on March 11, 2009, made production and transmission of renewable energy on public lands a priority for the Department. This Order establishes a Department-wide approach for applying scientific tools to increase understanding of climate change and to coordinate an effective response to its impacts on tribes and on the land, water, ocean, fish and wildlife, and cultural heritage resources that the Department manages. This Order replaces Secretarial Order No. 3226, Amendment No. 1, issued on January 16, 2009, and reinstates the provisions of Secretarial Order No. 3226, issued on January 19, 2001.

To fulfill our nation's vision for a clean energy economy, Interior is now managing America's public lands and oceans not just for balanced oil, natural gas, and coal development, but also – for the first time ever – to promote environmentally responsible renewable energy development. Sun, wind, biomass, and geothermal energy from our public and tribal lands is creating new jobs and will power millions of American homes and electric vehicles.

The Department is also taking the lead in protecting our country's water, land, fish and wildlife, and cultural heritage and tribal lands and resources from the dramatic effects of climate change that are already occurring – from the Arctic to the Everglades. The realities of climate change require us to change how we manage the land, water, fish and wildlife, and cultural heritage and tribal lands and resources we oversee. For example:

- New water management imperatives associated with climate change may require restoration of natural systems and construction of new infrastructure to reduce new flood risks or to capture early run-off.
- Strategies to address sea level rise may require acquisition of upland habitat and creation of wetlands and other natural filters and barriers to protect against sea level rise and storm surges. It may be necessary to relocate certain iconic and culturally historic structures.
- Shifting wildlife and habitat populations may require investments in new wildlife corridors.
- New invasions of exotic species and new wildland fire threats due to longer fire seasons and more severe droughts will require innovation and more effective ways of managing the Department's resources.

(c) Landscape Conservation Cooperatives. Given the broad impacts of climate change, igement responses to such impacts must be coordinated on a landscape-level basis. For iple, wildlife migration and related needs for new wildlife corridors, the spread of invasive es and wildfire risks, typically will extend beyond the borders of National Wildlife Refuges, [lands, or National Parks. Additionally, some bureau responsibilities (e.g., Fish and life Service migratory bird and threatened and endangered species responsibilities) extend nally and globally. Because of the unprecedented scope of affected landscapes, Interior ius and agencies must work together, and with other federal, state, tribal and local rnments, and private landowner partners, to develop landscape-level strategies for rstanding and responding to climate change impacts. Interior bureaus and agencies, guided e Climate Response Council, will work to stimulate the development of a network of borative "Landscape Conservation Cooperatives." These cooperatives, which already have formed in some regions, will work interactively with the relevant DOI Regional Climate ge Response Center(s) and help coordinate adaptation efforts in the region.

"…Interior bureaus and agencies must work together, and with other federal, state, tribal and local governments, and private landowner partners, to develop landscape-level strategies for understanding and responding to climate change impacts."

Importance of Landscape Scale Conservation and Adaptive Approach

- We're facing challenges that are immense in scale and cross political boundaries.
- Cross agency coordination is critical to assuring the most efficient use of limited resources to address issues that cross agency missions.
- Learning by doing or adaptive approaches provides the best chance to addressing large issues effectively.

More than ever- responding to today's conservation challenges requires cooperation

Must respect existing State Agency Authorities

- Chapter 2. Division of Fish and Wildlife
- Administration of article
- Sec. 2. The division of fish and wildlife shall administer this article.
- Duties of director
- Sec. 3. The director shall do the following:
- (1) Provide for the protection, reproduction, care, management, survival, and regulation of wild animal populations regardless of whether the wild animals are present on public or private property in Indiana.
- (2) Organize and pursue a program of research and management of wild animals that will serve the best interests of the resources and the people of Indiana.

ETPBR LCC Landscape- Illinois

ETPBR LCC Landscape- Iowa

ETPBR LCC Landscape - Indiana

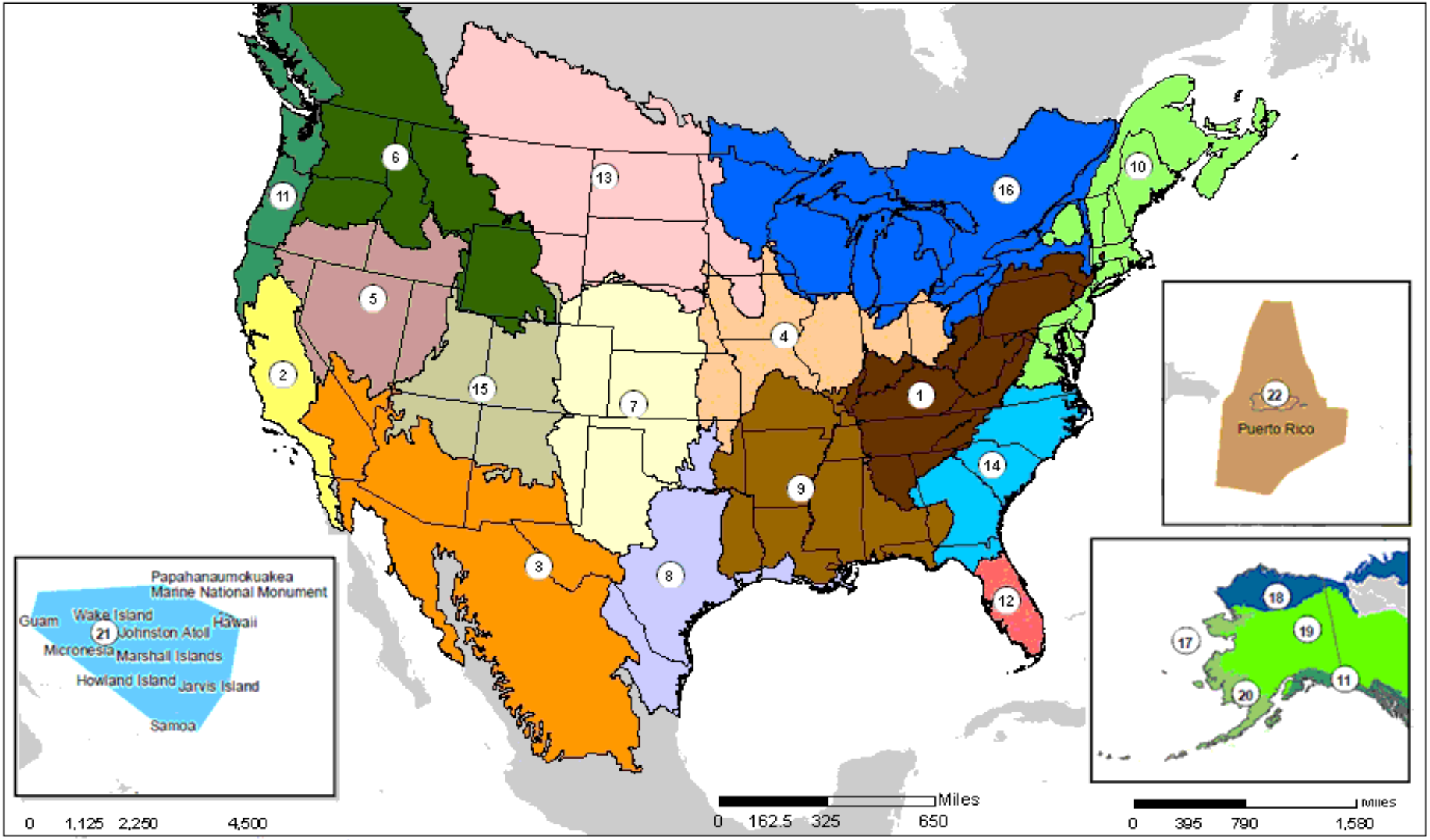
Political boundaries are not respected by wildlife

Partnering at this level is not free

- Vision is required
- Money to implement has to be identified
- Barriers need to be broken down
- Trust must be established
- Existing authorities must be respected
- Endeavor MUST make rapid progress because:
- Congress/OMB are impatient (LIP example)

Landscape Conservation Cooperatives model- Science Based

- Pick a geographical landscape that makes sense- Ozarks, Northeast USA, Florida, Gulf Coast, Corn-belt- aka Tallgrass prairie, whatever- just pick one
- Figure out who has skin in the game & get them together
- Provide organization support and leadership
- Equal partnerships- we're all in this together
- Strategic vision- what are the future desired conditions
- Develop a plan to get there
- Communicate, communicate, communicate

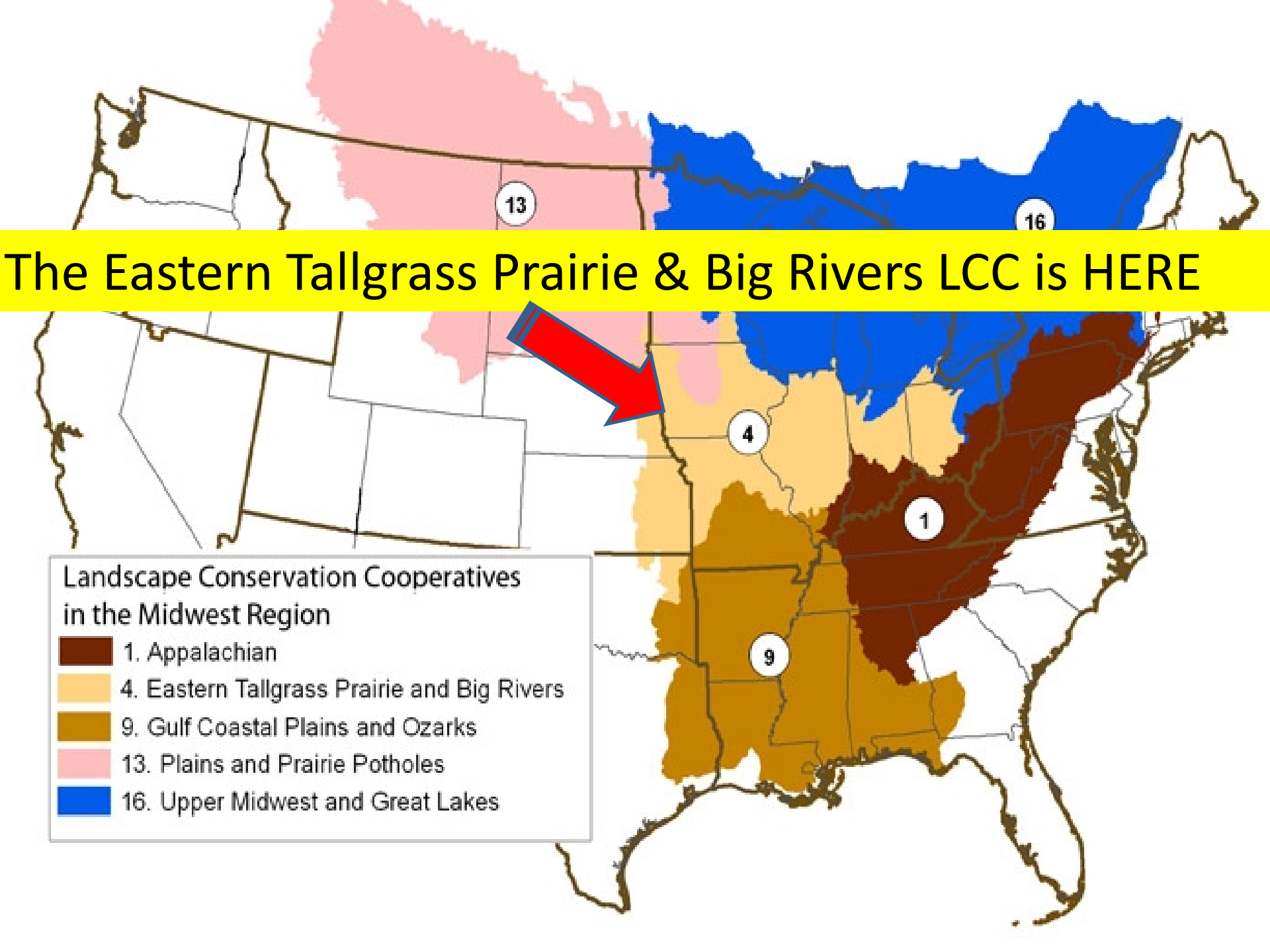


1. Appalachian
2. California
3. Desert
4. Eastern Tallgrass Prairie and Big Rivers
5. Great Basin
6. Great Northern
7. Great Plains
8. Gulf Coast Prairie
9. Gulf Coastal Plains and Ozarks
10. North Atlantic
11. North Pacific
12. Peninsular Florida
13. Plains and Prairie Potholes
14. South Atlantic
15. Southern Rockies
16. Upper Midwest and Great Lakes
17. Aleutian and Bering Sea Islands
18. Arctic
19. Northwestern Interior Forest
20. Western Alaska
21. Pacific Islands
22. Caribbean
Unclassified

Albers Equal Area Conic NAD83
Produced by FWS, IRTM, Denver, CO
Map Date: 12142011

Work cooperatively to address landscape level stressors

- Steering Committee and Science Committee
- Assembly of State and Federal agencies and NGOs that have direct impacts on fish, wildlife and their habitats.
- Science based research to inform management
- Self-directed partnerships
- 22 LCCs across the nation and territories
- Funded through USFWS appropriation with partner cooperation and input
- Must and do respect existing authorities
- Chairs or Co-Chairs are USFWS leaders
- Incorporate existing partnerships-FHAPs and JVs


The Eastern Tallgrass Prairie & Big Rivers LCC is HERE
13
16
4
1
9
Landscape Conservation Cooperatives
in the Midwest Region
1. Appalachian
4. Eastern Tallgrass Prairie and Big Rivers
9. Gulf Coastal Plains and Ozarks
13. Plains and Prairie Potholes
16. Upper Midwest and Great Lakes

Who is Leading?

ETPBR LCC Steering Committee

States: IA, IL, IN, KS, MO, NE, OH
Illinois Natural History Survey
Chicago Wilderness
Intertribal Agriculture Council
Ducks Unlimited
Pheasants Forever
Fish Habitat Partnerships
The Nature Conservancy
Upper Mississippi River and Great Lakes Joint Venture

US Army Corps of Engineers
US Geological Survey
FWS National Wildlife Refuges
NRCS
US EPA
USDA Farm Services Agency
FWS Region 3 (Midwest)
FWS Region 6 (Mountains)
US Forest Service
Northeast Climate Science Center
National Parks Service

Mission Possible:

Restore & Connect Wildlife with People on the Rich Soils of a Functional Working Landscape

ETPBR LCC- Status?

Glen Salmon starts as Coordinator	July 2011	
Preliminary Planning meeting with States:	January 2012	Springfield IL
Interim Steering Committee meeting	May, 2012	Springfield IL
Strategic Visioning Retreat	Sept. 2012	Dickson Mounds IL
Dr. Gwen White hired as Science Coord.	October 2012	
Full Steering Committee meeting	January 2013	Dubuque IA
Preliminary Strategic Plan finalized	February 2013	
Full Steering Committee meeting	July 2013	Indianapolis
Next meeting planned	January 22-23	Missouri

ETPBR LCC Organizational Structure

Steering Committee
- Strategic direction
- Organizational oversight
- Funding decisions
- Implementation authority

Management community
- Conservation agencies
- Private landowners
- Business community
- NGOs on-the-ground
- Communicate priority Science Needs from the field
- Test research outcomes in a management context

LCC Staff
- Facilitate organizational development
- Day-to-day operations
- Communication across groups & outreach
- Share resources & concepts from
- FWS Region 3 Science Advisory Team
- National LCC Network

Technical Advisory Groups (TAGs)
- Refine strategic plan; develop science agenda
- Propose targeted RFPs or project scopes of work; proposal review

- PBRAT (FWS Program Advisors)

- ETPBR LCC TAGs (YOU!)
  - Prairie Restoration
  - River Restoration
  - Agroecology
  - Urban Watersheds
  - Communications (shared)
  - Regional Conservation Design (shared)
  - Information & Technology Transfer (shared)

Research Community
- Universities & Business R&D
- Agency & NGO research scientists
- Forecast future challenges
- Bring cutting edge ideas & tools
- Conduct applied research
- Describe management implications of research outcomes

Eastern Tallgrass Prairie & Big Rivers LCC

Join us on 4 Technical Advisory Groups (TAGs)

1) **Prairie Restoration Techniques** – *Develop and connect large-scale tallgrass prairie ecosystems.*

2) **River Restoration Techniques** – *Develop and connect functional big river ecosystems.*

3) **Agroecology Conservation Practices** – *Use economics and incentives to influence best management practices for habitat conservation on agricultural working lands, particularly as they affect the Gulf of Mexico hypoxic zone.*

4) **Urban Watershed Management** – *Promote big river systems as a resource for green infrastructure and human connection to waterways and wildlife habitats in cities, suburbs and small towns.*

Focal Area # 2 - River Restoration
What Are Some Example Science Needs?

What to consider:

- Connectivity at large scales for climate adaptation
- Shallow water habitat (within river channel)
- Chute design (off main channel)
- Flow regulation (timing & quantity)
- Early life history of pallid sturgeon (larval drift)
- Shoreline erosion impacts to endangered species
- Energy development (hydrokinetic turbines)
- Fish bypass relative to channel slope & velocity

Where to start:

- What motivates landowners to install BMPs
- Clearinghouse for restoration techniques information
- Network of networks (connecting, landscape context)

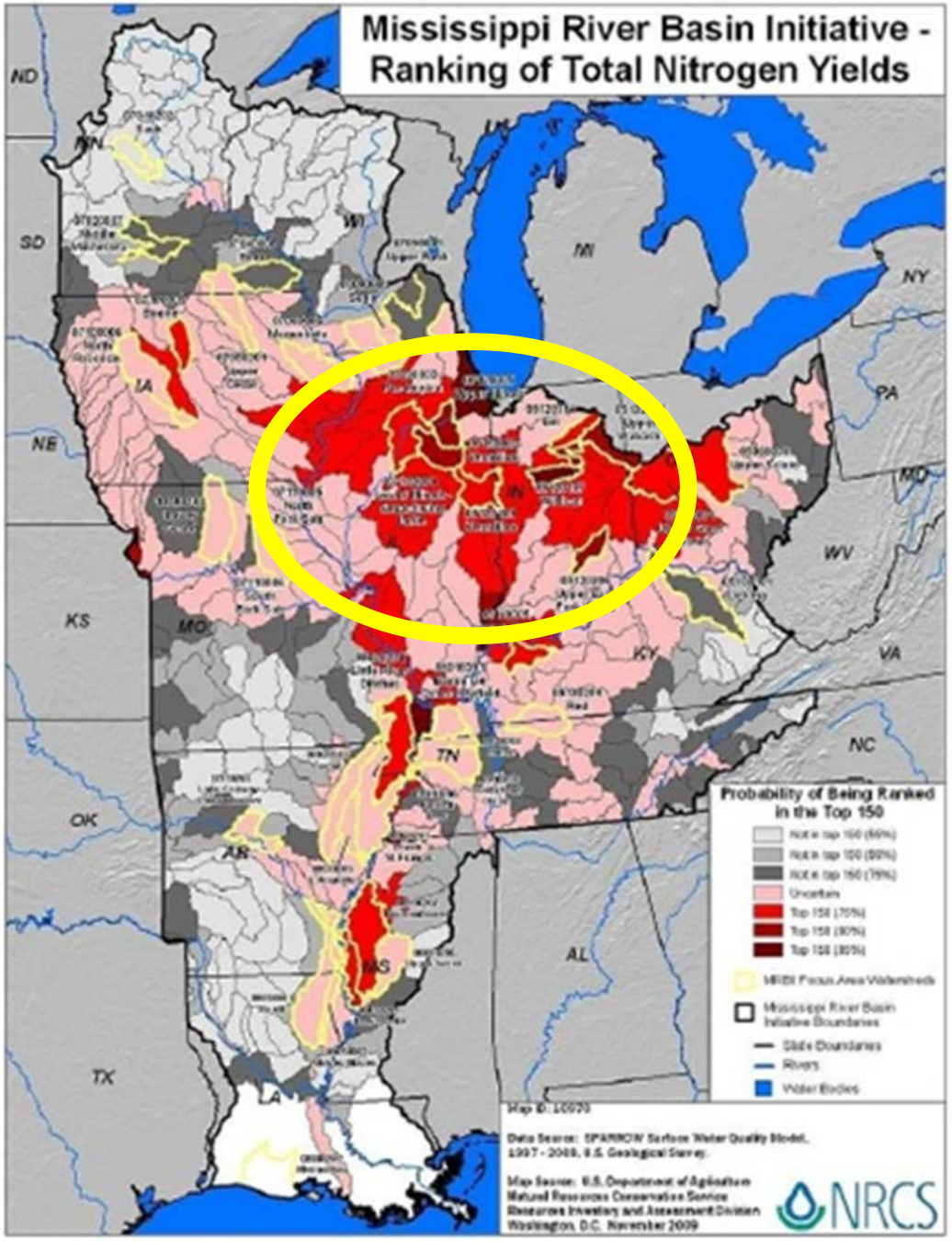
And we are here…

Gulf Hypoxia Zone

9 states = 75%

of nitrogen yields to Gulf of Mexico

Note location of red watersheds



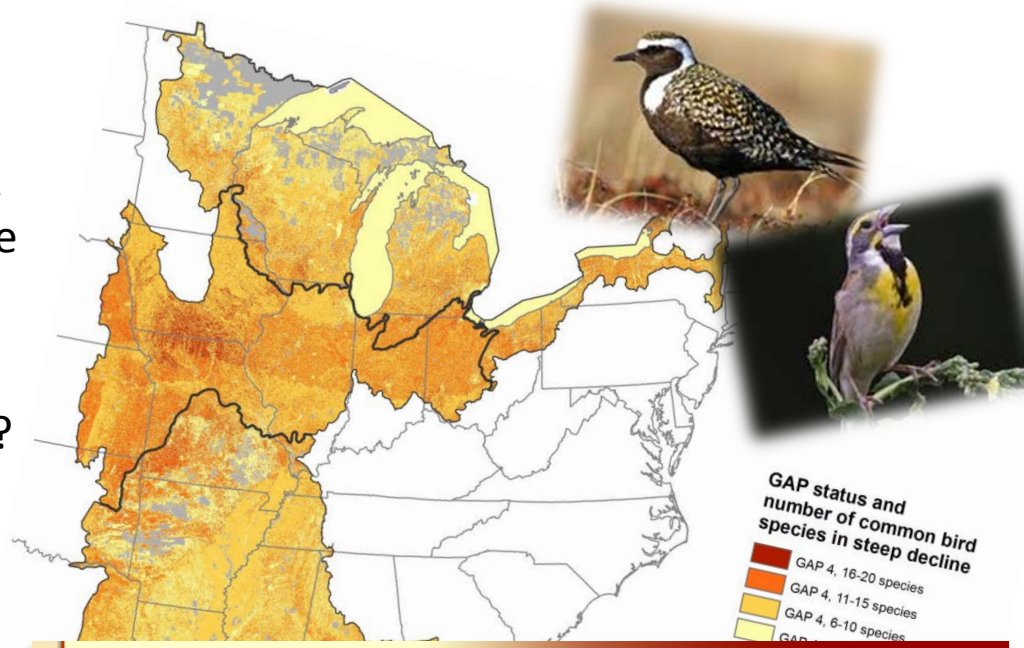
Suite of related projects

What do we know about water quality and wildlife impacts?

- What research has been done on environmental effects? Literature on agricultural practices, climate change & water quality - $40,000 (Climate Science Center funds)

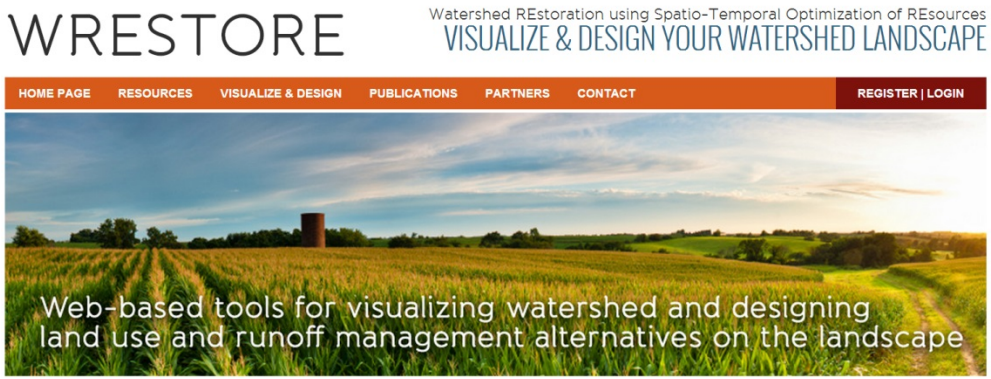
- Which Midwestern watersheds are key? Model locations for water quality & riparian/grassland bird benefits – $42,500 (USGS GAP Analysis funds)

- What are the on-the-ground water quality & wildlife benefits of <u>prairie</u> buffer strips? Field-based comparison to traditional CRP - $150,000 (FSA proposal)

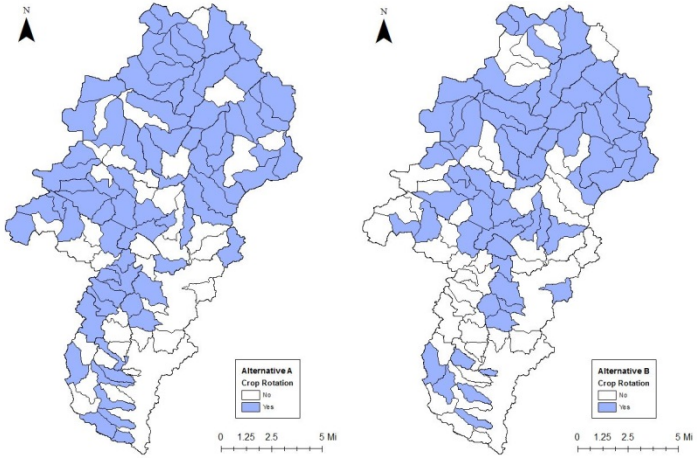


Suite of related projects

What do we know about landowner values and motivations?

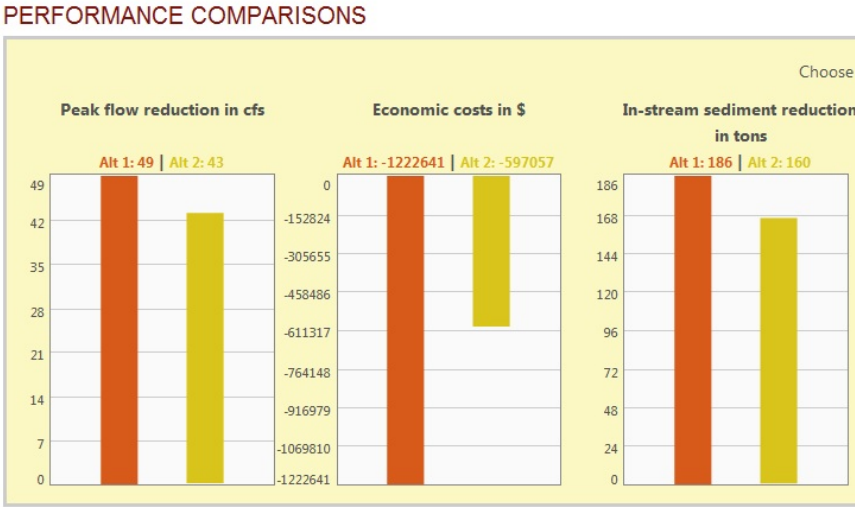


CROP ROTATION
Alt A: 73 sub-basins
Alt B: 64 sub-basins

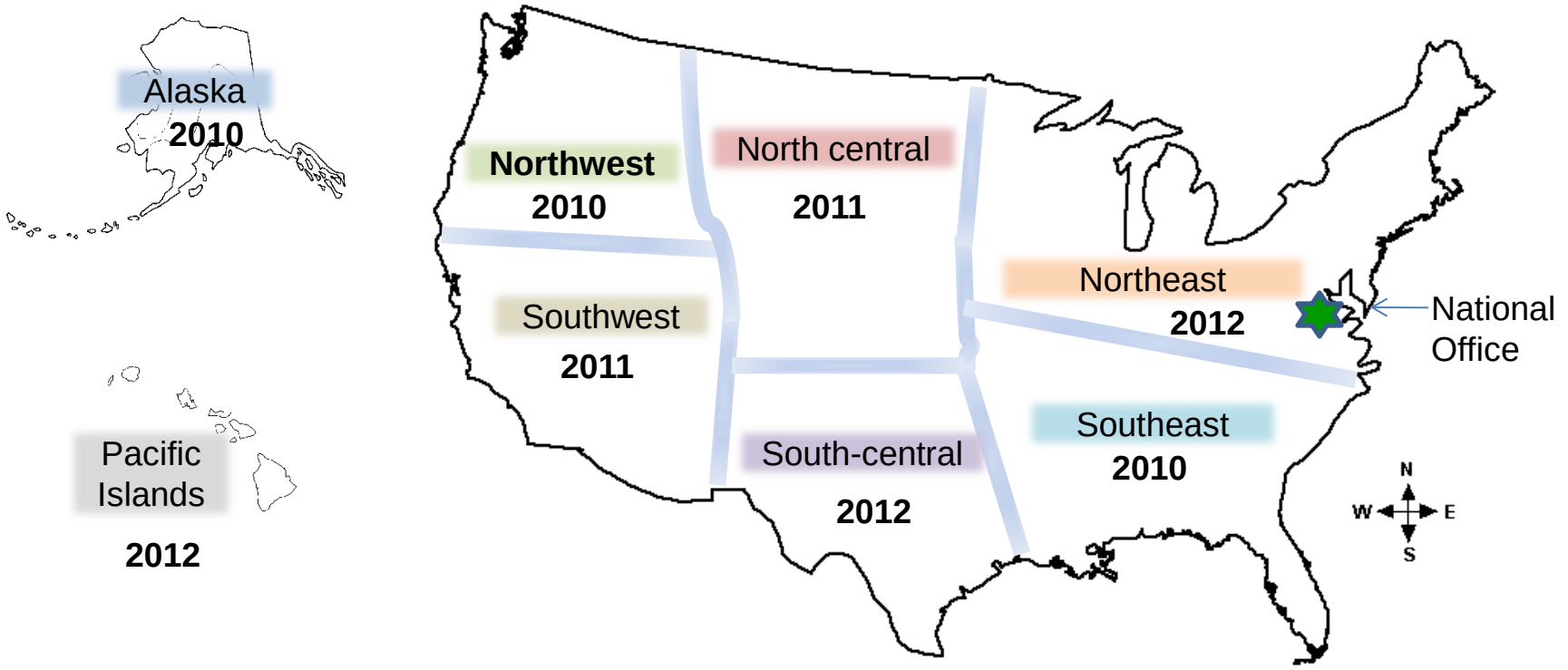


- What values and configuration of practices do landowners prefer? Web-based model to optimize selection and siting of BMPs in a small watersheds for nutrient, wildlife, cost during extreme climate events - $172,220 (Climate Science Centers proposal)

- What motivates landowners to adopt practices with multiple benefits? Focal group surveys in several states - $50,000 (USGS/University of Minnesota)



DOI Regional Climate Science Centers



"Fuzzy Boundaries"

USGS

The landscape is changing- will our conservation efforts keep up?

Eastern Tallgrass Prairie & Big Rivers LCC
Welcome to the Leadership Team!

- Join us in taking TAGs to the next level:
  * Glen Salmon, LCC Coordinator
    glen_salmon@fws.gov
  * Gwen White, Science Coordinator
    gwen_white@fws.gov
  * Ashley Spratt, Communications Coordinator
    gwen_white@fws.gov

- Online workspace:
  http://TallgrassPrairieLCC.org/