

Photo by Henry Be

CONSERVATION HOTSPOT ANALYSIS: EXPANDED FINDINGS

JULY 2022

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INTRODUCTION

In August of 2021, Delta Institute released a report titled *Conservation in Illinois: Hotspot Analysis and Implications for Program Design* (<https://bit.ly/illinois-hotspot>) which identified conservation hotspots, defined as Illinois counties with high uptake of specific conservation programs, and evaluated the impact of relevant factors. Our team produced an interactive map (<https://bit.ly/hotspot-map>) of findings alongside this report. Subsequently, Delta hosted a webinar (<https://bit.ly/hotspot-webinar>) in September 2021 to present these findings. Using feedback on the report, map, and webinar, Delta further investigated some key questions on factors influencing conservation practice adoption.

This document provides an overview of our team's expanded findings. We have also included more in-depth analyses of agricultural conservation hotspots in Northeastern Illinois, specifically for Cook, DuPage, Kane, Lake, McHenry, and Will Counties.

About Delta Institute

Delta Institute (Delta) collaborates with communities to solve complex environmental challenges throughout the Midwest. We address Midwestern environmental, economic, and climate challenges today, so that our home and region are more resilient, equitable, and innovative tomorrow.

Delta exists because environmental, economic, and climate issues hit communities—urban and rural—through disinvestment, systemic inequity, and policy decisions. We collaborate at the community level to solve our home region's new and legacy issues, by focusing on the self-defined goals and needs of our partners.

Our work takes us to population centers like Chicago, St. Louis, and Detroit; to mid-sized cities such as Gary and South Bend, Indiana; to Great Lakes coastal towns like Michigan City, Indiana and Muskegon, Michigan; and to rural communities and watersheds with tens of thousands of acres of farmland and waterways across our region. It's quite likely that you—or someone you know—lives, works, or passes through a community that Delta has helped since our founding in 1998. Acting now is not only a pressing climate change issue, but also an issue of equity and environmental justice.

Delta Institute is a 501c3 nonprofit with a Platinum Seal of Transparency from GuideStar. Visit us online at <https://delta-institute.org>.

Acknowledgements

We thank the Oberweiler Foundation and the Walton Family Foundation for generously sponsoring this work to protect the environment, increase adoption of regenerative agriculture and conservation, and improve soil health in Illinois. Support from the Oberweiler Foundation advanced more in-depth analyses of agricultural conservation in Northeastern Illinois.

CONSERVATION HOTSPOT ANALYSIS: EXPANDED FINDINGS

Resource Distribution through U.S. Department of Agriculture Natural Resource Conservation Service (USDA NRCS)

The project team previously identified several federal cost-share programs (USDA NRCS), available to IL producers, landowners, or conservation organizations to address environmental concerns: the *Environmental Quality Incentives Program* (EQIP), the *Regional Conservation Partnership Program* (RCPP), the *Conservation Stewardship Program* (CSP) and the *Conservation Reserve Program* (CRP). Further research explores how resources within these programs are delegated.

Applicants for cost-share programs submit a signed NRCS-CPA-1200 form to their county's NRCS Field Office. Each county's Field Office is led by a District Conservationist. Some counties also have Soil and Water Conservation District (SWCD) and Major Land Resources Area (MLRA) offices – also led by District Conservationists – where applications are collected. Application deadlines vary upon the program, but all applications are processed once a year in January. After the deadline, District Conservationists submit applications to the IL NRCS State Office – led by a State Conservationist. Field Office staff assist District Conservationists is advising applicants as well as collecting, processing, and submitting applications. The State Office chooses winning applications based national priorities such as:

- Significance of environmental concerns and opportunity for improvement,
- Potential for [cost-sharing program] to assist producers in compliance with environmental laws, and
- Amount of land in use for different production categories like grazing or specialty crops.

Following secondary research and phone interviews with IL NRCS staff, the project team has not identified any formal differences among IL NRCS Areas or counties (Figure 1) in the process of allocating funding to producers. However, given that applications for cost-share programs are advised, reviewed, collected, and submitted by a county's Field Office before reaching the State

EQIP “provides financial and technical assistance to agricultural producers to address natural resource concerns and deliver environmental benefits.”

RCPP “promotes coordination of NRCS conservation activities with partners that offer value-added contributions to expand our collective ability to address on-farm, watershed, and regional natural resource concerns.”

CSP provides producers with technical and financial assistance to expand on existing conservation efforts such as improving grazing conditions, increasing crop resiliency, or developing wildlife habitat.

Farmers enrolled CRP agree to remove environmentally sensitive land from agricultural production and plant species that will improve environmental health and quality.”

Office, it is possible that funding variation across Illinois may be partially linked to county Field Offices. In other words, hotspots of cost-share program funding may reflect Field Offices that effectively recruit and advise applicants to make their applications most successful. On the other hand, variation of allocated cost-share program funds among Illinois counties may reflect geographic or cultural drivers, such as climate variability or producers speaking more with neighbors than Field Offices, respectively. To improve cost-share program funding among IL counties, Field Offices may optimize outreach and education to potential applicants.

As mandated by Public Law 110-246, the Food, Conservation, and Energy Act of 2008, NRCS will target nationally 10 percent of the funds to assist socially disadvantaged farmers and ranchers as well as beginning farmers and ranchers.

Consistently Above-Average Counties

Delta's research into conservation hotspots found several counties that were regularly above average across several different factors. Our team conducted interviews with eight SWCDs to gather more qualitative information on factors affecting operations and impact. The individuals involved in the work appear to be a significant driver of conservation implementation. Of the counties interviewed, many cited having conservation-minded board members who were supportive of conservation programming withing the SWCD. Relationships with farm bureaus varied, with some SWCDs having more alignment and working relationships with their local farm bureau. Most of the SWCD employees interviewed had local and longstanding roots in the counties they worked in; several interviewees noted that they or their colleagues had tenures within the SWCD for 15 or more years. Many SWCD staff had some farming background or were actively managing farmland concurrently with their SWCD work. In total, the conversations with SWCDs indicated that success lies with SWCDs being well-integrated within their counties, building connections with farmers, and having conservation-minded ideologies span across the range of stakeholders.

Role of Winter Wheat in Cover Crop Values

We determined cover crop uptake by using satellite imagery, with areas showing vegetation during winter months counted as cover crop plantings. Due to this methodology, some winter wheat sprouting is believed to be incorporated into cover crop acreage numbers.



AGRICULTURAL CONSERVATION: COOK COUNTY

Delta Institute has synthesized conservation data for the state of Illinois with a focus on the northeastern region of the state. Below is a summary of findings with a focus on Cook County, in tandem with comparisons to other counties within Northeastern Illinois.

Key Takeaways from Cook County:

- **Farmers in Cook County have used both CRP and EQIP funding to support their conservation goals.**
- **Cook County had an outreach score of 2/10. This may be a factor of what information was reported to the Illinois Nutrient Reduction Strategy, but it may also point to opportunity to increase outreach and highlight agricultural activities in an otherwise heavily urbanized area.**

2/10

Cook's Outreach
Score¹

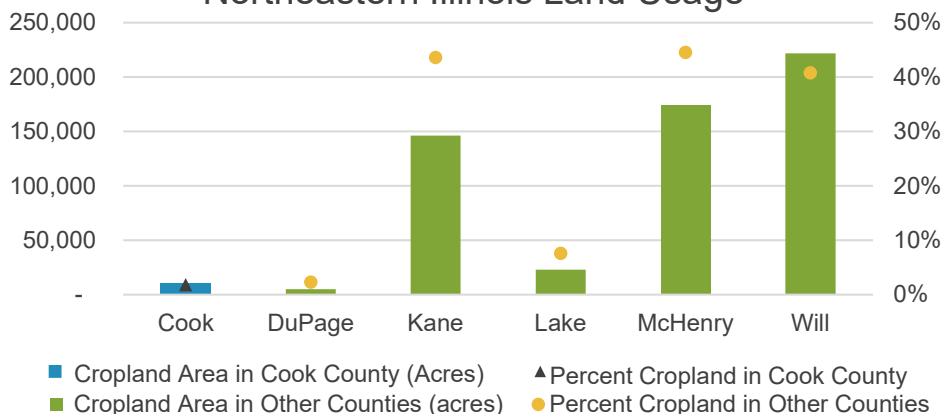
108

Cook's Average
Productivity Index²

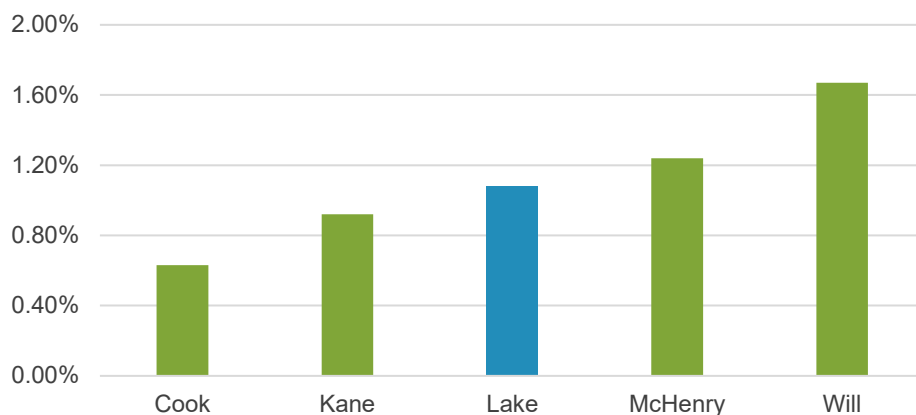
0.6%

Cropland Acreage
Using Cover Crops

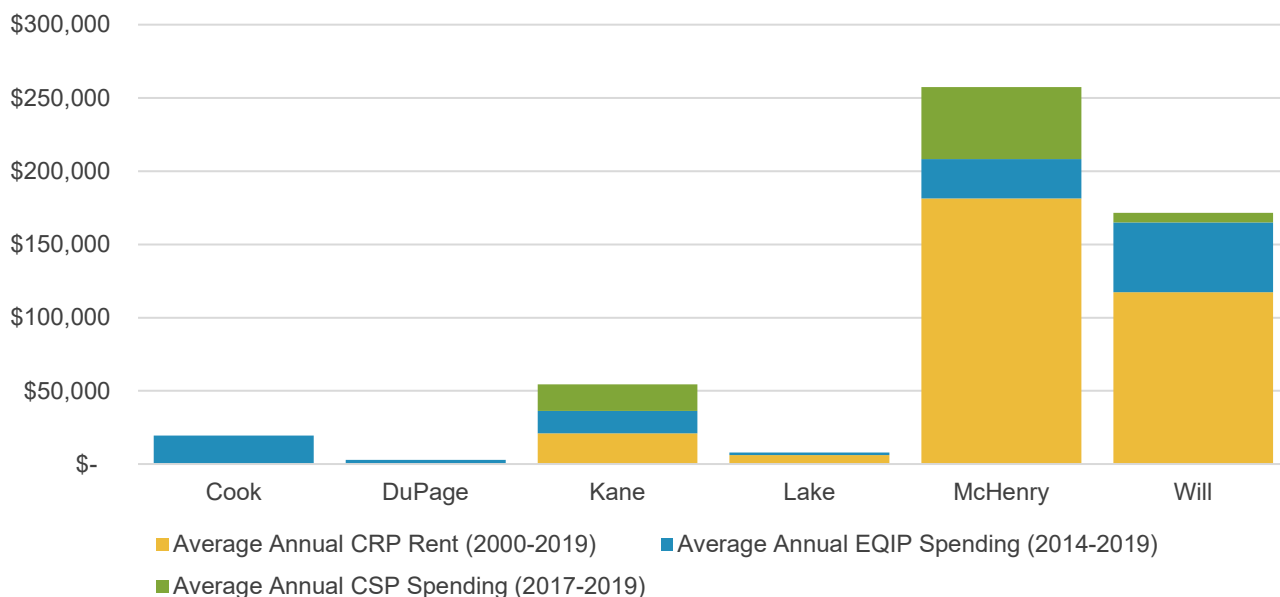
Northeastern Illinois Land Usage



Cover Crop Acreage Percentage by County³



Federal Conservation Incentive Spending



County Name	Cook	DuPage	Kane	Lake	McHenry	Will
Average Annual CRP Rent (2000-2019)	\$ 63	\$ -	\$ 21,047	\$ 6,281	\$ 181,458	\$ 117,358
Average Annual EQIP Spending (2014-2019)	\$ 19,543	\$ 2,930	\$ 15,265	\$ 1,689	\$ 26,734	\$ 47,605
Average Annual CSP Spending (2017-2019)	\$ -	\$ -	\$ 18,088	\$ -	\$ 49,167	\$ 6,536



The data in this infographic parallels previous research conducted by Delta Institute and Environmental Working Group, *Conservation In Illinois: Hotspot Analysis And Implications For Program Design*. For more information and links to a spatial data tool, go to: <https://delta-institute.org/project/conservation-hotspots-in-illinois/>

About this infographic:

Data for this report was sourced from several public agencies and organizations: U.S. Department of Agriculture, Illinois Department of Agriculture, Illinois Environmental Protection Agency, Illinois Nutrient Loss Reduction Strategy, and Environmental Working Group.

¹ Outreach rating for each county was determined using data collected by Illinois Nutrient Reduction Strategy which summarized reported outreach activities across six categories. For each category, a county was assigned a point value based on whether their outreach was above or below the state average. These values were then summed, with a maximum possible score of ten points.

² Productivity Index (PI) data is used to identify areas where soils are most productive and is derived from annual crop yields over a multiyear timeline. High PI values suggest prime areas for intensive/ conventional corn-soy production and could be related to lack of conservation activities and where conservation program priorities should focus. In Illinois, average PI ranges from 72 to 138 with a mean of 111.

³ Data for DuPage County was not available.



AGRICULTURAL CONSERVATION: DUPAGE COUNTY

Delta Institute has synthesized conservation data for the state of Illinois with a focus on the northeastern region of the state. Below is a summary of findings with a focus on DuPage County, in tandem with comparisons to other counties within Northeastern Illinois.

Key Takeaways from DuPage County:

- **Farmers in DuPage County have used EQIP funding to support their conservation goals.**
- **Using Delta's rating system¹, DuPage has the highest possible score for its outreach activities.**
- **DuPage has an Average Productivity Index value² of 117, which is above the statewide average.**
- **Though much smaller than other counties in Northeastern Illinois, agricultural remains an active industry with 122 producers and 77 operations.**

10/10

DuPage's Outreach
Score¹

117

DuPage's Average
Productivity Index²

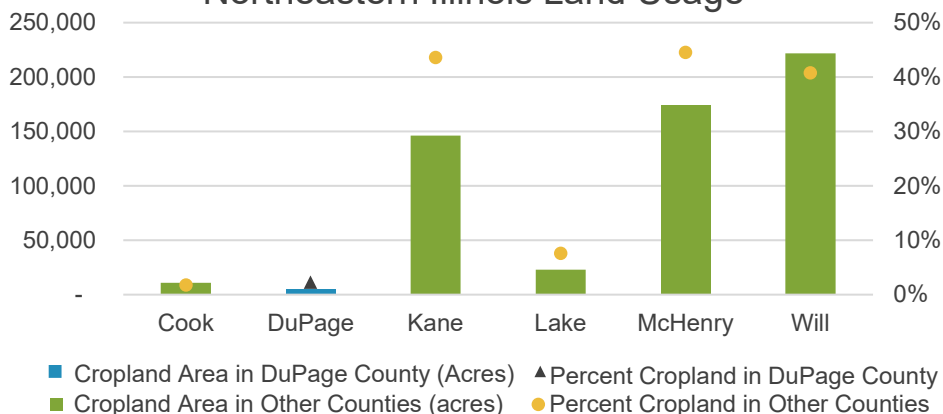
122

Number of Producers in
DuPage

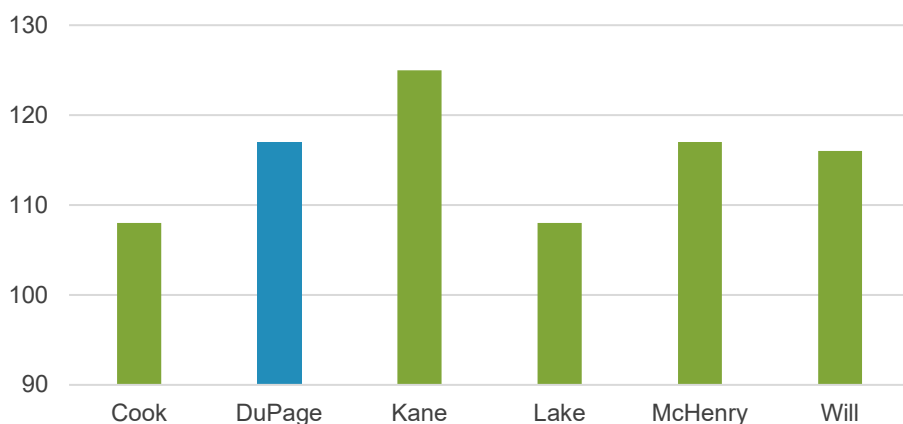
77

Number of Agricultural
Operations in DuPage

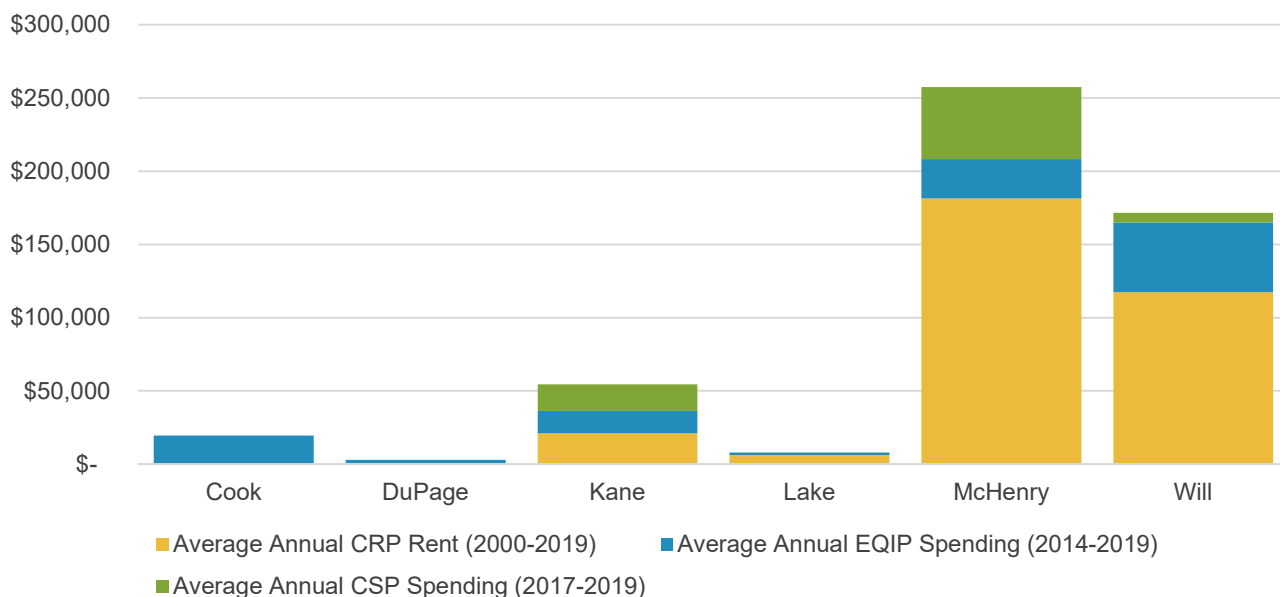
Northeastern Illinois Land Usage



Average Productivity Index



Federal Conservation Incentive Spending



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² Productivity Index (PI) data is used to identify areas where soils are most productive and is derived from annual crop yields over a multiyear timeline. High PI values suggest prime areas for intensive/ conventional corn-soy production and could be related to lack of conservation activities and where conservation program priorities should focus. In Illinois, average PI ranges from 72 to 138 with a mean of 111.



AGRICULTURAL CONSERVATION: KANE COUNTY

Delta Institute has synthesized conservation data for the state of Illinois with a focus on the northeastern region of the state. Below is a summary of findings with a focus on Kane County, in tandem with comparisons to other counties within Northeastern Illinois.

Key Takeaways from Kane County:

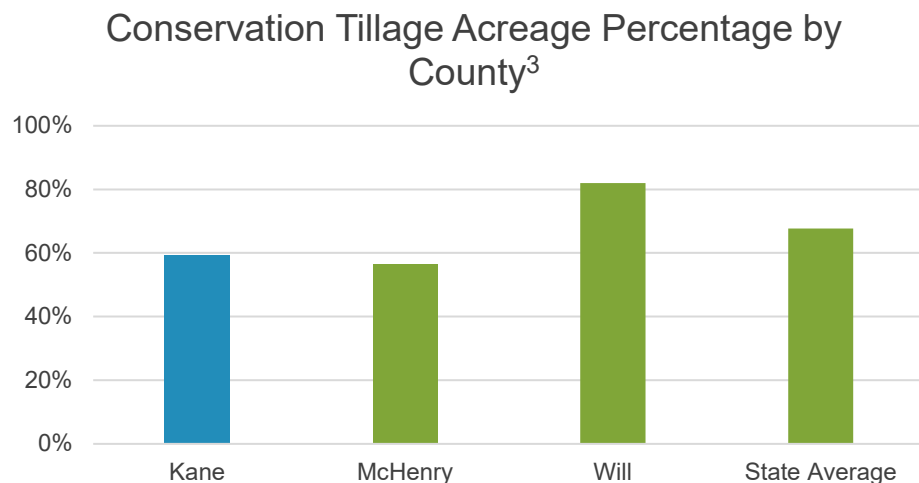
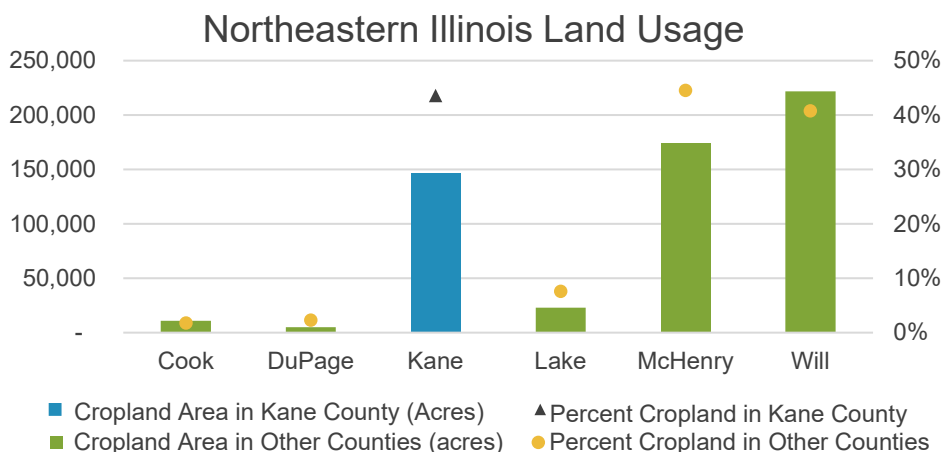
- *Of the counties in Northeastern Illinois, Kane County has the highest average productivity index value, indicating high quality soil and historically high annual yields.*
- *Despite having a lower total acreage of cropland, the percentage of land dedicated as cropland is comparable to McHenry and Will County.*
- *Kane County had an outreach score of 4/10. This may be a factor of what information was reported to the Illinois Nutrient Reduction Strategy, but it may also point to opportunity to increase outreach.*

4/10
Kane's Outreach
Score¹

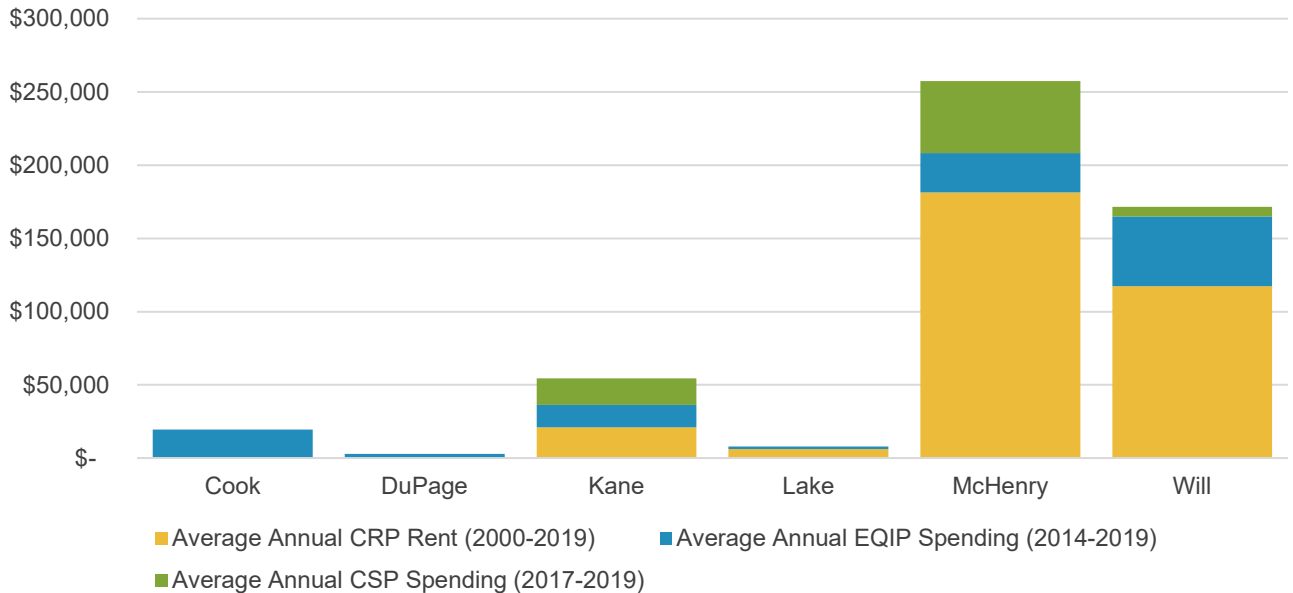
125
Kane's Average
Productivity Index²

59.2%
Cropland Acreage
Using Conservation
Tillage

0.9%
Cropland Acreage
Using Cover Crops



Federal Conservation Incentive Spending



County Name	Cook	DuPage	Kane	Lake	McHenry	Will
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³ State average does not include the three counties otherwise included in the figure (Kane, McHenry and Will). The counties of Cook, DuPage, and Lake counties were also excluded as there was no data available.

AGRICULTURAL CONSERVATION: LAKE COUNTY

Delta Institute has synthesized conservation data for the state of Illinois with a focus on the northeastern region of the state. Below is a summary of findings with a focus on Lake County, in tandem with comparisons to other counties within Northeastern Illinois.

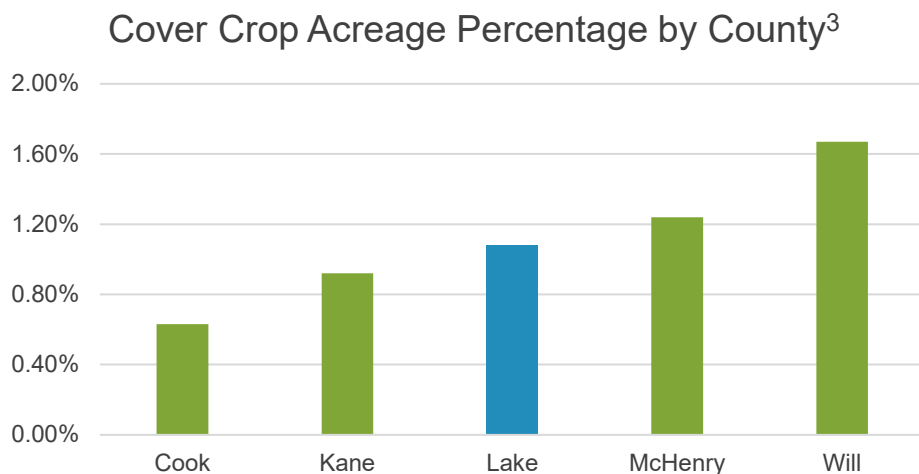
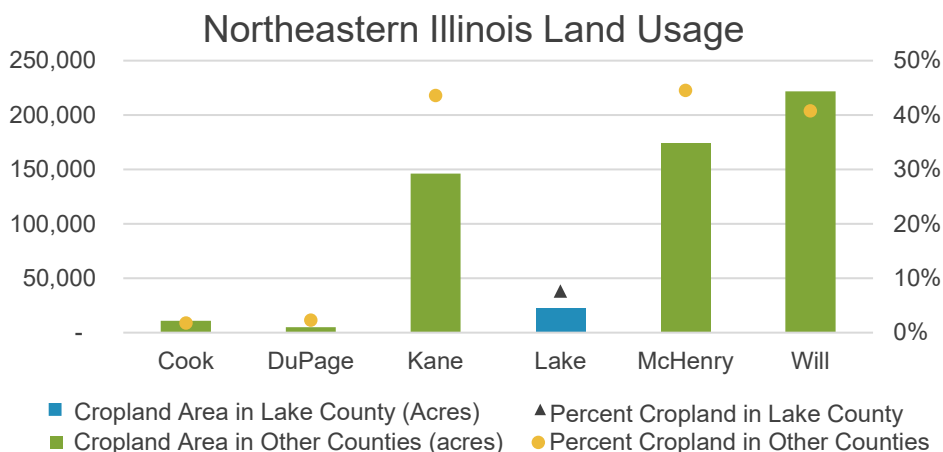
Key Takeaways from Lake County:

- **Using Delta's rating system¹, Lake has the highest possible score for its outreach activities.**
- **Use of cover crops in Lake County is on par with other counties in Northeastern Illinois, even though its cropland acreage and percentage of cropland is lower.**
- **Farmers in Lake County have used both CRP and EQIP funding to support their conservation goals.**

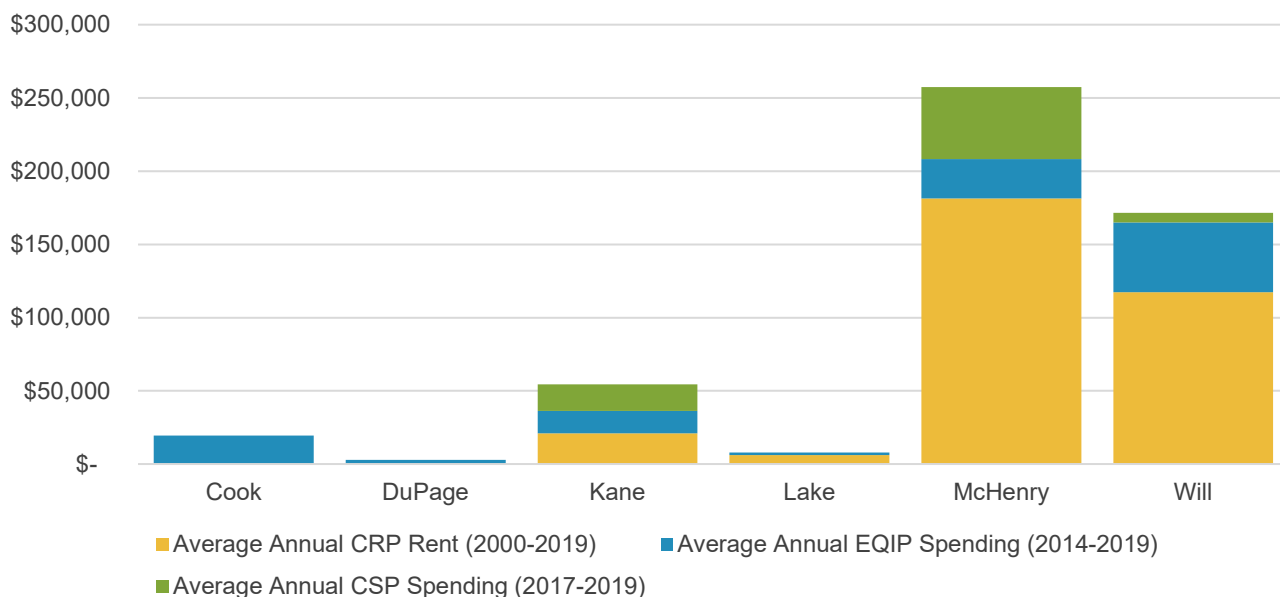
10/10
Lake's Outreach Score¹

108
Lake's Average
Productivity Index²

1.1%
Cropland Acreage
Using Cover Crops



Federal Conservation Incentive Spending



County Name	Cook	DuPage	Kane	Lake	McHenry	Will
Average Annual CRP Rent (2000-2019)	\$ 63	\$ -	\$ 21,047	\$ 6,281	\$ 181,458	\$ 117,358
Average Annual EQIP Spending (2014-2019)	\$ 19,543	\$ 2,930	\$ 15,265	\$ 1,689	\$ 26,734	\$ 47,605
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³ Data for DuPage County was not available.



AGRICULTURAL CONSERVATION: MCHENRY COUNTY

Delta Institute has synthesized conservation data for the state of Illinois with a focus on the northeastern region of the state. Below is a summary of findings with a focus on McHenry County, in tandem with comparisons to other counties within Northeastern Illinois.

Key Takeaways from McHenry County:

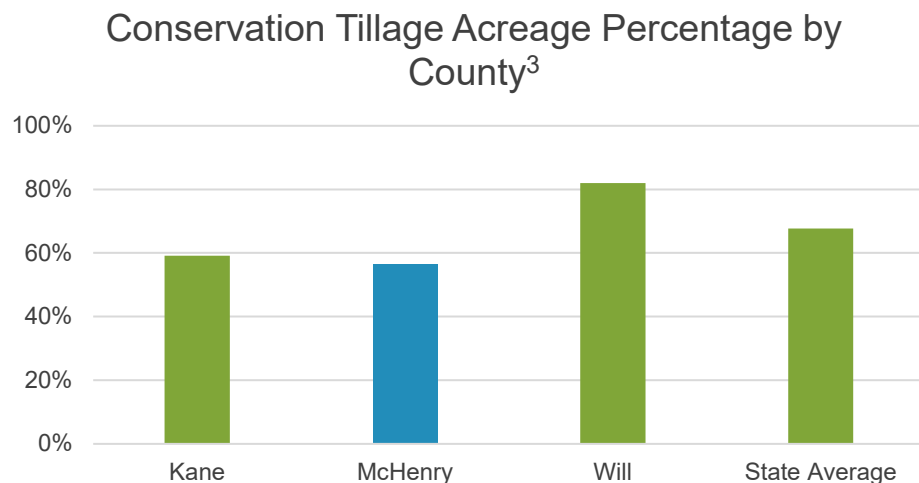
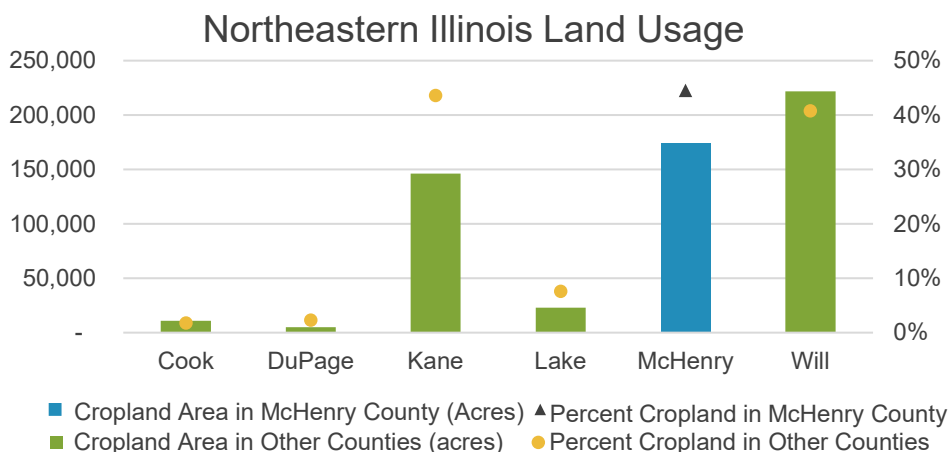
- ***Of the counties in Northeastern Illinois, McHenry County has the highest uptake of federal conservation incentive program dollars.***
- ***Using Delta's rating system¹, McHenry has the highest possible score for its outreach activities.***
- ***Almost half of McHenry County is cropland, and 56% of cropland is managed using conservation tillage.***

10/10
McHenry's Outreach
Score¹

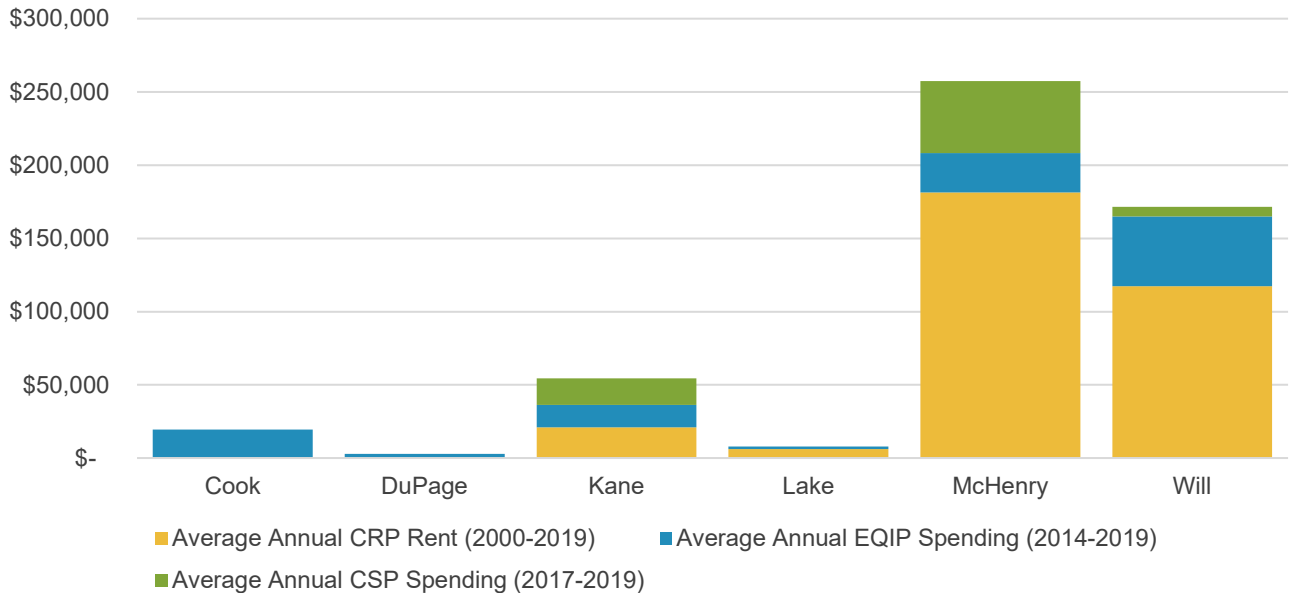
117
McHenry's Average
Productivity Index²

56.5%
Cropland Acreage
Using Conservation
Tillage

1.2%
Cropland Acreage
Using Cover Crops



Federal Conservation Incentive Spending



County Name	Cook	DuPage	Kane	Lake	McHenry	Will
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AGRICULTURAL CONSERVATION: WILL COUNTY

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Key Takeaways from Will County:

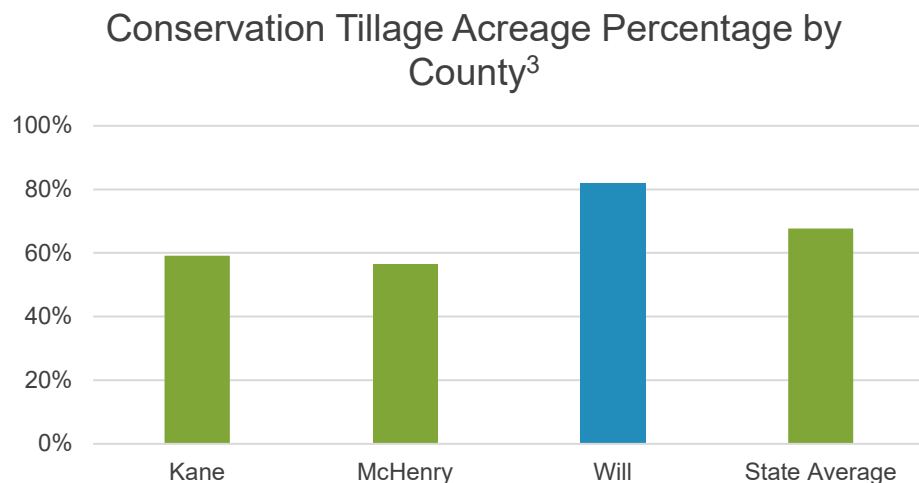
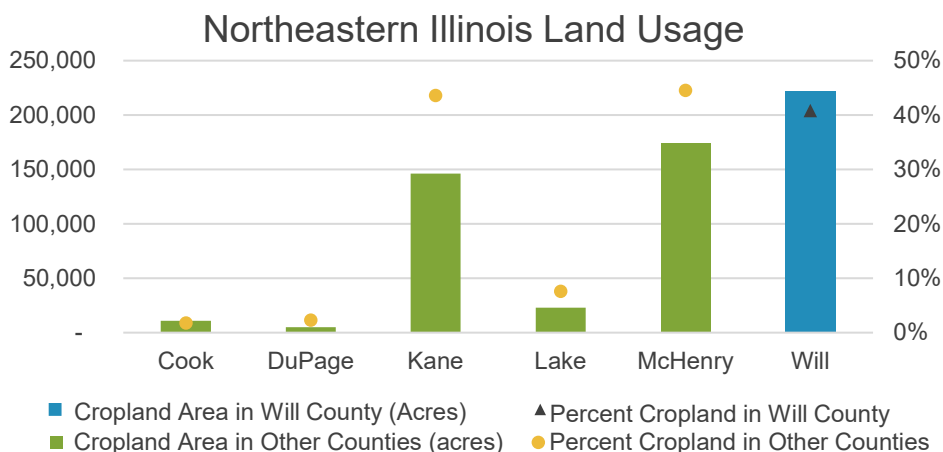
- **41% of Will County is cropland, and Will County has the highest absolute acreage of cropland in Northeastern Illinois.**
- **Of counties in Northeastern Illinois, Will County has the highest implementation rates for both conservation tillage and cover crops.**
- **Will County had an outreach score of 2/10. This may be a factor of what information was reported to the Illinois Nutrient Reduction Strategy, but it may also point to opportunity to increase outreach.**

2/10
Will's Outreach Score¹

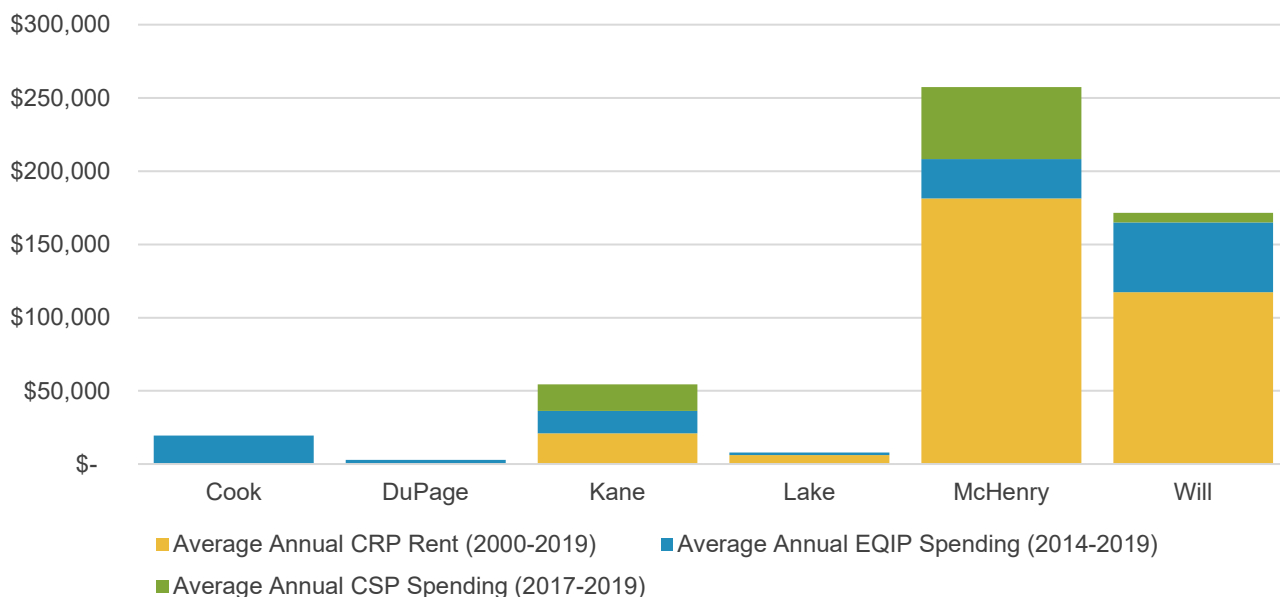
116
Will's Average
Productivity Index²

82.9%
Cropland Acreage
Using Conservation
Tillage

1.7%
Cropland Acreage
Using Cover Crops



Federal Conservation Incentive Spending



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