

2017 STRIPS Landowner Report



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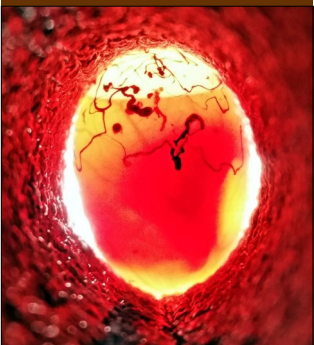
Page 10— Soil and water research

Page 18— Wildlife summaries for individual farms



Thank you for allowing us onto your farm to conduct our research! This research supports Jordan Giese and Matt Stephenson's graduate education and is helping to answer some very important questions about how prairie strips might benefit wildlife as well as soil and water quality.

Most of our STRIPS wildlife research projects will continue in 2018, although we may change where certain projects are conducted. We hope that you will continue your important role in advancing the very promising research being done by the whole STRIPS team!



View of a blackbird egg through a candling tube. The stage of embryo development allows us to estimate the age of the nest.

2017 Wildlife research summary

First and foremost, thank you for allowing us to conduct important wildlife conservation research on your property last year! We had a good year of data collection for several research projects and wanted to share how those projects are going with you. This report contains short descriptions of each of the projects our team are conducting on your farm, and a summary of the data we collected for that project in 2017.

Matt graduated with his Master's degree in Wildlife Ecology in the spring and is continuing on with STRIPS for his PhD. There is also a new PhD student in the lab, Jordan Giese, who will be taking over some of Julia's projects. We may be making some changes to which research projects are conducted on which farms, but someone will be in touch with you this spring about our plans either way.

If you have any questions, we would love to hear from you!



Katie candles an egg to determine its development age. The development age of a nest is a major predictor of daily nest survival, with lower survival rates for nests that have hatched. This is probably due to more activity at the nest attracting predators.

Summary of species found on all farms

	Acres searched	Nests found	Bird species nests found	Bird species recorded	Reptile & amphibian species recorded	Small mammal species
INH (Jasper)	23	71	9	-	0	1
KAL (Jasper)	222	35	5	25	3	3
NIR (Audubon)	214	33	9	-	2	1
SMI (Wright)	370	73	7	20	2	4
WHI (Guthrie)	387	116	12	26	9	5
TOTAL	1386	328	42	71	16	14

Data collection funded by the Iowa Nutrient Research Center, the USDA Farm Service Agency, USDA National Institute for Food and Agriculture, the Federal McIntire-Stennis Program.

STRIPS Wildlife 2017 Summary

Bird Nests

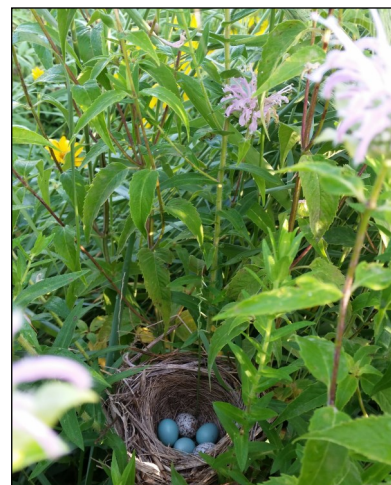
One of the more noticeable projects we are working on is our bird nest study. The aim of this project is to determine the best way to design prairie strips to serve as quality nesting habitat. To do this we need to locate a large number of nests and then monitor each of them every few days to see when they either succeed or fail.

Finding nests involves a lot of walking through grassy areas and crops (on some farms) and watching for an adult to fly off a nest so we know where to focus our search efforts. Most of our nest searching last year was simply walking in a tightly spaced line through grassy areas on the farm, but we also had plots flagged out that always received the same amount of searching time to allow us to compare nest densities in different kinds of conservation features.

The nest data we have collected so far shows that after accounting for the development age of the nests:

- ♦ Red-winged Blackbird nests survive better in areas of dense vegetation (such as prairie strips)
- ♦ Dickcissel nests survive better at one site with a particularly large, mature prairie strip (INH) compared to other sites, as well as better in mature prairie strips compared to other cover types
- ♦ Vesper Sparrow nests survive better in prairie strips than in other cover types

We have a good start on figuring out how nest survival varies across areas on farms, but there are a lot more questions we would like to find answers for, such as: How does nest survival vary for other bird species found on farms? How do design decisions like prairie strip width and species diversity affect nest survival? How do prairie strips compare to larger areas of grass for nesting cover? Stay tuned over the next couple years as we find more nests and gain the statistical power necessary to answer some of these questions! *-Matt Stephenson*



A Dickcissel nest in a patch of Wild Bergamot in a prairie strip at the SMI site. Many grassland birds prefer to build nests in dense, stiff-stemmed vegetation that can better support a nest. This nest also contains eggs of a Brown-headed Cowbird, a species that lays its eggs in other birds' nests and lets the host birds raise its young.



Most of the animals we find under cover boards are mice, voles, or shrews, with reptiles and amphibians being less common. Sometimes we come across rarer species, such as this Tiger Salamander found at the WHI site.

Cover Boards

Our cover board study is an attempt to see if reptiles (snakes & lizards), amphibians (toads & salamanders), and small mammals (mice, voles, & shrews) are present in different areas on farms at different rates. We placed a number of 2'x4' plywood sheets in different kinds of grass cover around the farm and then turn them over every time we visit. We record all of the animals present under each board and if there are snakes or toads present, we attempt to catch them so we can get a good identification on them, determine their sex, and measure and weigh them.

Most of the snakes we find are small insect-eating Garter Snakes or Brown Snakes, but we also found a few larger rodent-eating snakes such as Fox Snakes and Yellow-bellied Racers. We have also found some less common species, such as Northern Prairie Skinks (a lizard), Lined Snakes, and Tiger Salamanders!

Data analysis is ongoing for the cover board study, but the main takeaway so far is that occurrence rates for snakes on farms is very low. On average we turn cover boards 100 times to get a single snake sighting. We're not sure yet why this is, but comparing capture rates to other study systems will be one piece of the puzzle going forward.

-Matt Stephenson

STRIPS Wildlife 2017 Summary

Bird Counts

In 2017, we observed 55 bird species at farms across the state. The most commonly observed species were Red-winged Blackbird, Dickcissel, Brown-headed Cowbird, Common Yellowthroat, and Killdeer. Many of these species (especially Blackbirds and Dickcissels) frequently used perennial vegetation within fields for nesting, feeding, and singing. Bird point counts also included many birds listed as Species of Greatest Conservation Need (SGCN), including Northern Bobwhite, Upland Sandpiper, Field Sparrow, and Bobolink. We also observed an uptick in Ring-necked Pheasant calls, a species of interest to many landowners.

During the last few years we have collected a large volume of data from our Autonomous Recording Units (ARUs) at STRIPS sites around Iowa. We are currently using this data to examine breeding bird use of prairie strips and other land covers commonly found in agricultural landscapes, but year-round recordings also give us the ability to examine migration timing and other aspects of avian ecology. We plan to use recently developed analysis methods to investigate differences in spring migrant arrival and fall migrant departure across different conservation practices and years. Analysis of biological soundscapes is an increasingly utilized method in wildlife science and its development within the STRIPS project will allow us to enhance our understanding of how birds interact with various land use practices in Iowa. We will continue to collect data from ARUs through at least the summer of 2018.

-Jordan Giese



If you ever have any questions or concerns, don't hesitate to contact us!

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STRIPS Native Bee Study 2017 Summary

One of the questions the STRIPS team is interested in investigating is how prairie strips affect native bee communities in agricultural landscapes. In 2016 and 2017 Farnaz Kordbacheh, working with Matt Liebman and Mary Harris, intensively surveyed native bees and vegetative communities at 4 paired comparison sites, each with a prairie strip field and a control field. Bees were surveyed by walking transects through each field sweeping an insect net to sample the bees present. Bees were also trapped using small colorful bowls and blue vane traps with an attractant in them placed at ground level. Over 2016-2017 Farnaz captured and identified over 6,100 bees representing 97 species and demonstrated that addition of prairie strips to crop fields can increase bee diversity by 1.9-fold and increase diversity of uncommon bee species by 1.6-fold.

In addition to capturing and trapping bees, Farnaz also conducted vegetation survey transects of prairie strips and adjacent crop areas to determine how the flowering forb availability affected the numbers and diversity of bees at the sites. Initial results show that the abundance pattern of uncommon bee species is highly correlated to forb coverage.

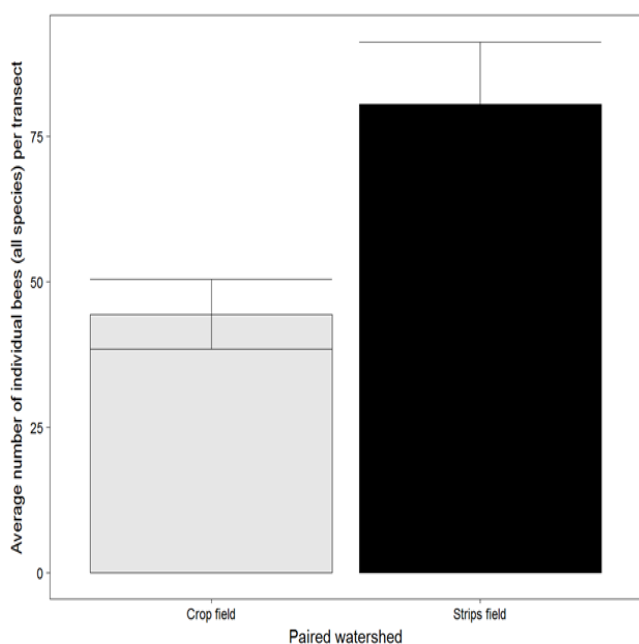


Figure 1. Total number of all bee species in crop field (control) and strips field (strips of prairie incorporated into crop field). Data averaged over sites in four Iowa counties (Cass, Linn, Marshall, and Guthrie), months (May-August), and years (2016-2017). Crop fields incorporated with strips of prairie had significantly increased communities of wild bees.

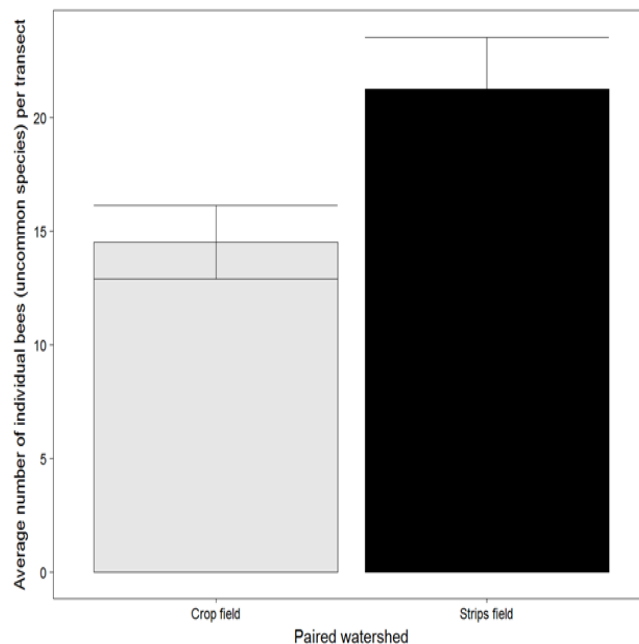


Figure 2. Number of individual bees of uncommon species in crop field (control) and strips field (strips of prairie incorporated into crop field). Data averaged over sites in four Iowa counties (Cass, Linn, Marshall, and Guthrie), months (May-August), and years (2016-2017). Crop fields incorporated with strips of prairie had significantly increased communities of uncommon wild bee species.



Second-year prairie strip at SMI site.

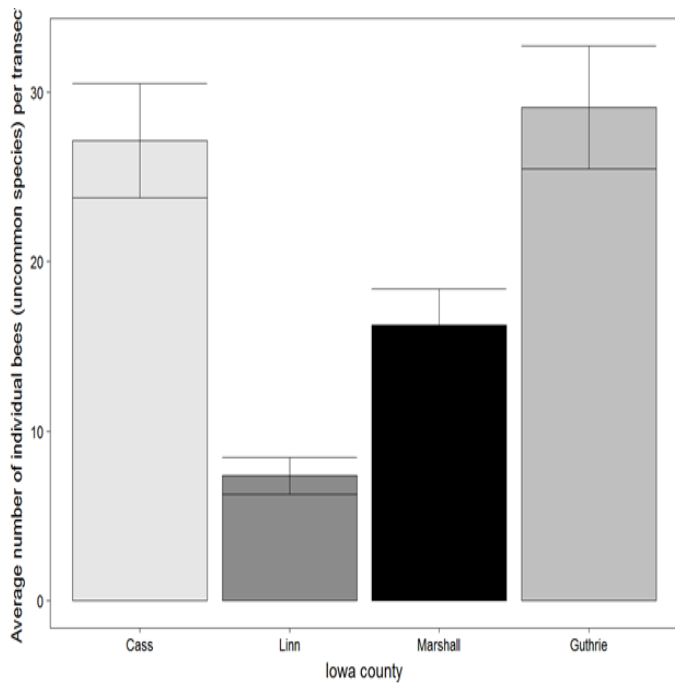


Figure 3. Number of individual bees of uncommon species at sites in four Iowa counties (Cass, Linn, Marshall, and Guthrie). Data averaged over months (May-August) and years (2016-2017).

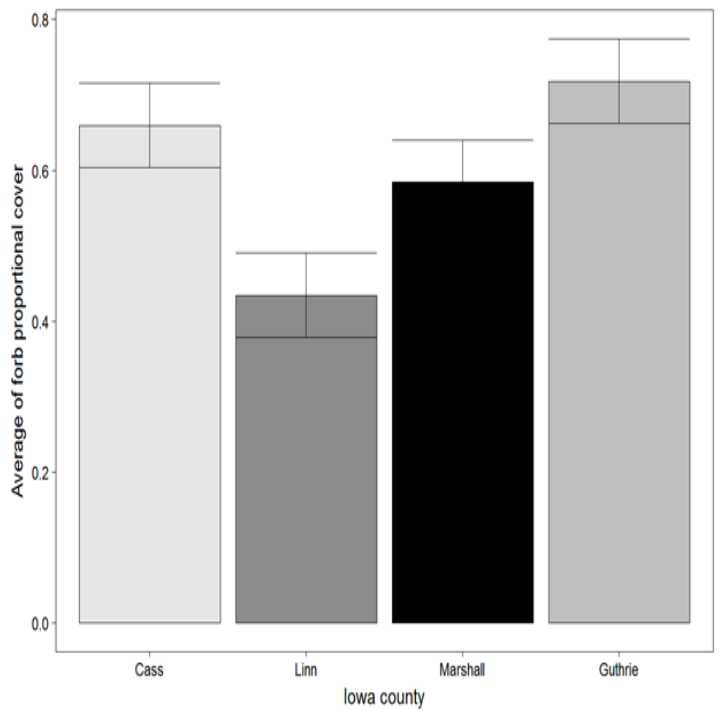


Figure 4. Proportion of forbs cover in prairie strips at sites in four Iowa counties (Cass, Linn, Marshall, and Guthrie). Data averaged over months (May-August), and years (2016-2017). Preliminary results show sites with higher forb proportion had higher numbers of wild bees and in particular increased the number of uncommon species in the community.

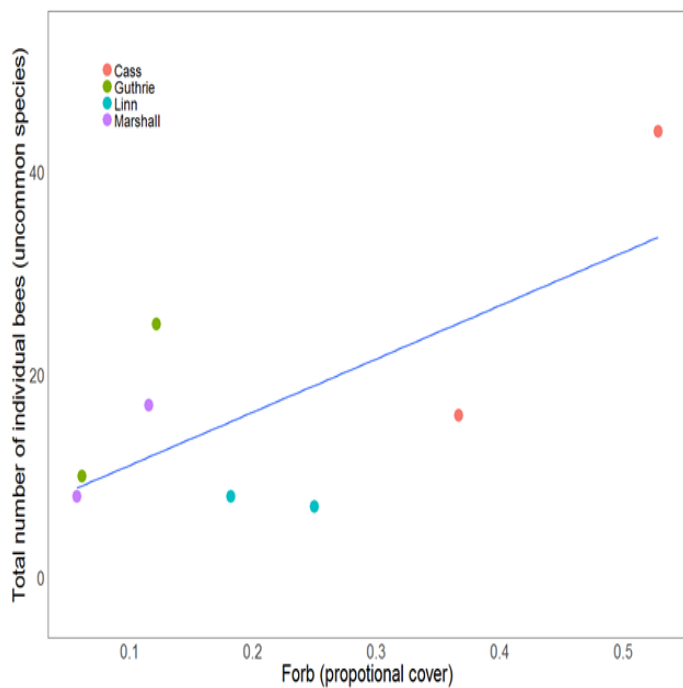


Figure 5. Correlation between number of individual bees (uncommon species) and proportion of forb cover in prairie strips. Data points represent July forb cover each year. Increase in forb proportional cover in the prairie strips field resulted in a significant increase in the community of uncommon species of wild bees.

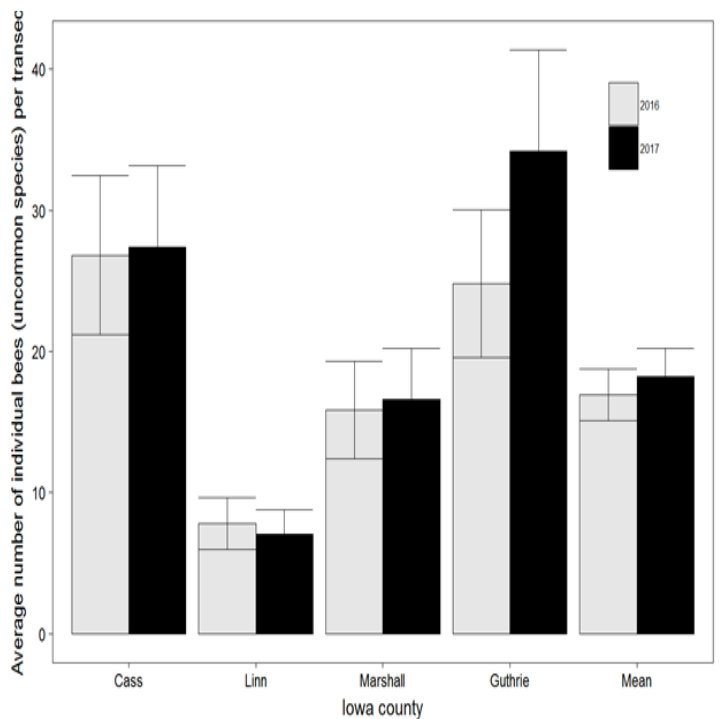


Figure 6. Number of bees of uncommon species in four Iowa counties (Cass, Linn, Marshall, and Guthrie) in two years (2016-2017). Data averaged over months (May-August). The community of uncommon wild bees in strips fields were the same from one year to the next.

STRIPS Native Bee Study 2017 Summary



Blazing Star sp. in a sixth-year prairie strip in Jasper County (INH).



Prairie Mimosa and *Wild Bergamot* in a second-year prairie strip in Wright County (SMI).

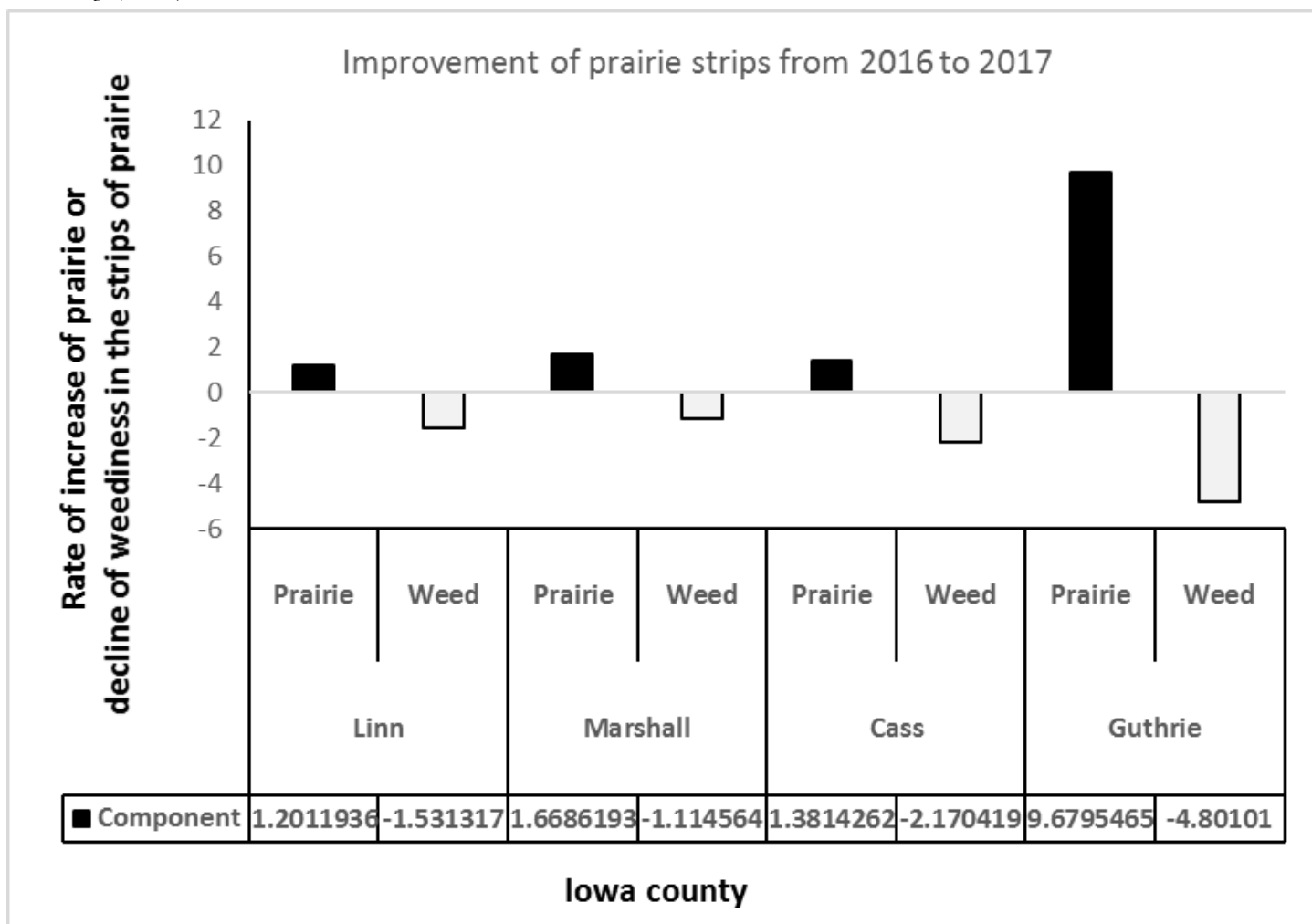


Figure 7. All strips sites had an enhancement in prairie cover and a decline in weed cover from 2016 to 2017.

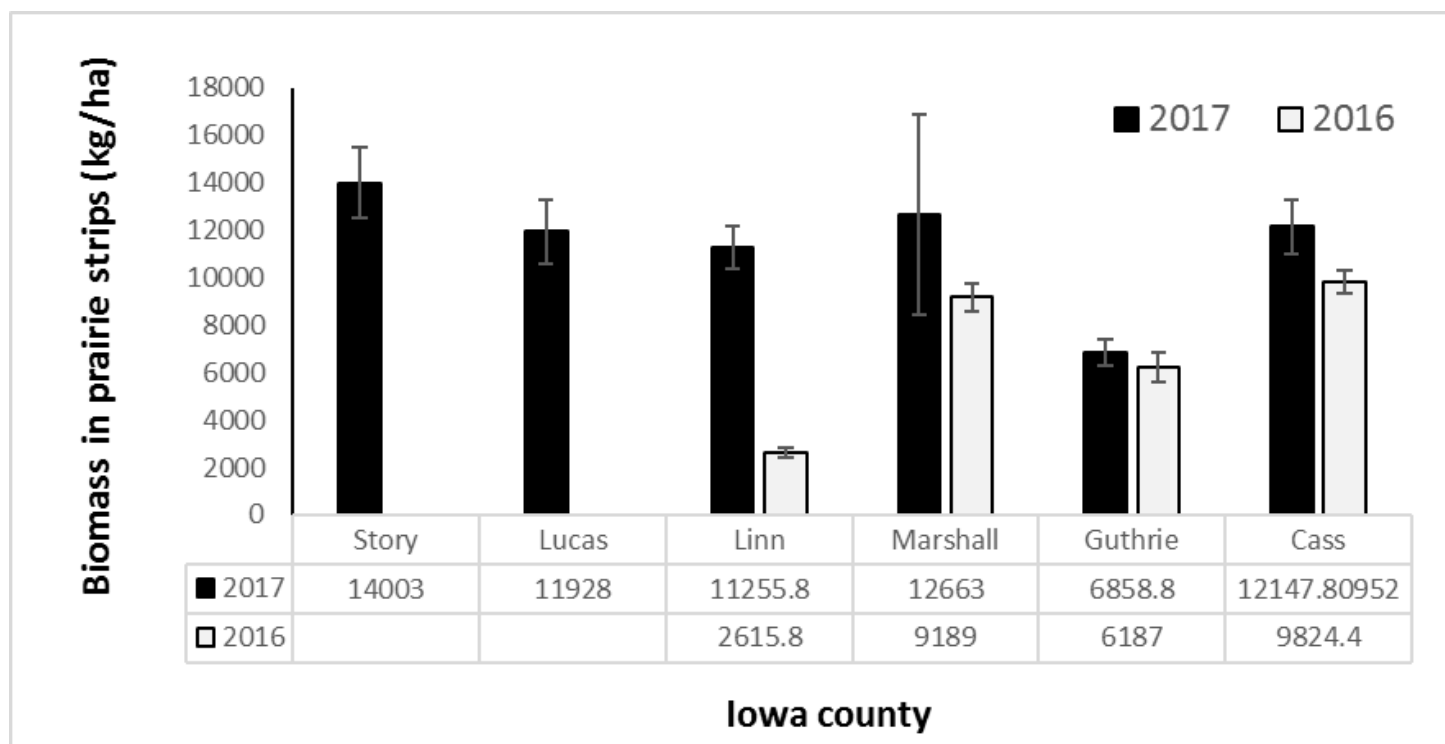


Figure 8. Changes in biomass from 2016 to 2017. All sites (except Guthrie) have the same average biomass in 2017. The lower biomass at the Guthrie site was due to mowing to suppress weed pressure.

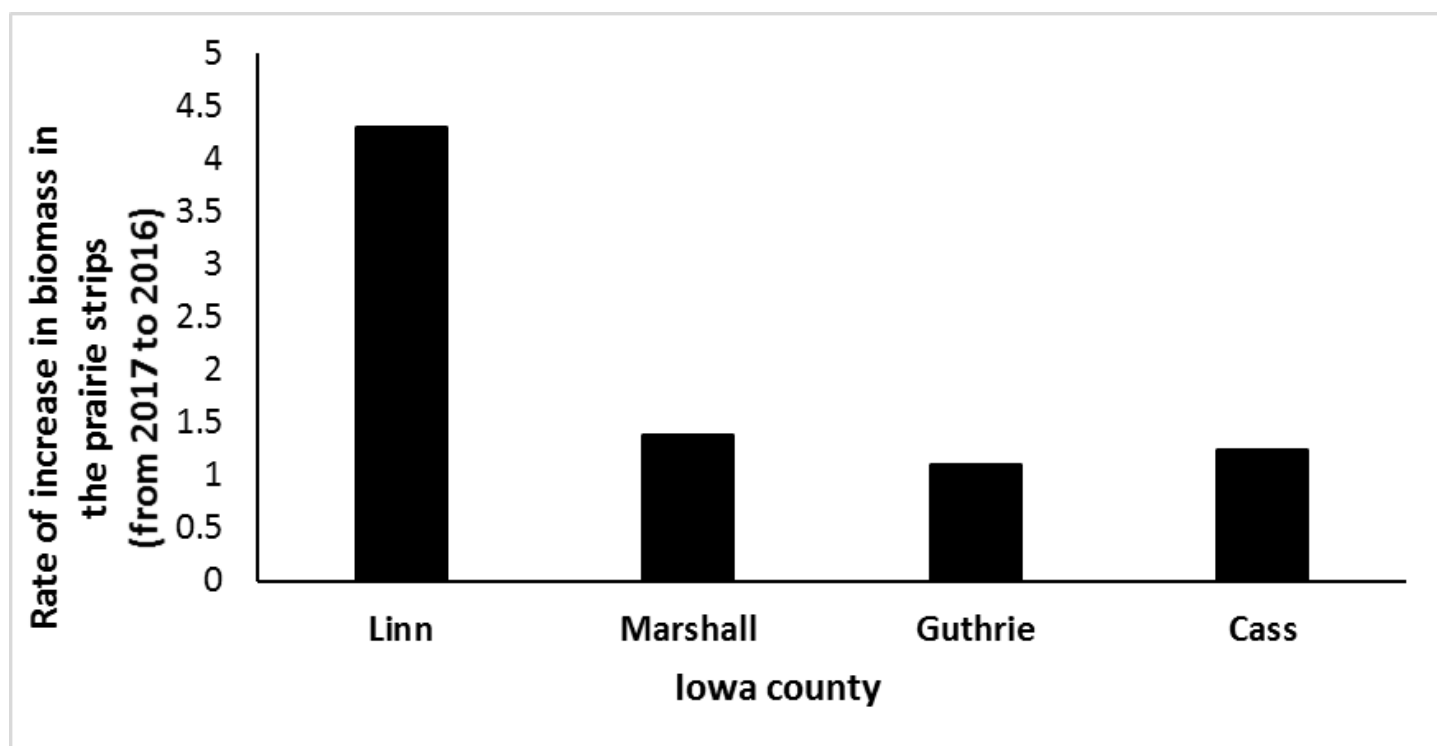


Figure 9. All sites showed an enhancement in biomass (groundcover) of prairie strips from 2016 to 2017.

STRIPS Honey Bee Study 2017 Summary

Ge Zhang, working with Matt O'Neal and Amy Toth, is trying to determine if European honey bee colonies located in prairie strips have improved honey production compared to those located in control sites (cropland with soybean or corn). We measured the weight of individual hives to estimate the amount of nectar honey bees are able to gather from the surrounding landscape. We hypothesized that the prairie strips with more floral resources would support heavier colonies than farms without prairie strips. In 2017, we conducted a pilot study by placing two colonies at GUT and WOR. We also selected two nearby farms that did not have prairies in or near them, representing control sites. At GUT and WOR, two colonies were placed in a prairie strip. At the control sites, two colonies were placed at a field margin. We weighed the colonies 1-2 times every month. Although the average colony weight was higher for the hives in a prairie strip, this difference was not statistically significant. We have received funding from the Foundation for Food and Agriculture Research program to continue this project in 2018 and 2019, allowing us to increase the number of replicate sites from 2 to 4 for each treatment. In addition to hive weight we will also test to see if the health of the colony and individual bees differs between the treatments. Stay tuned for future updates!

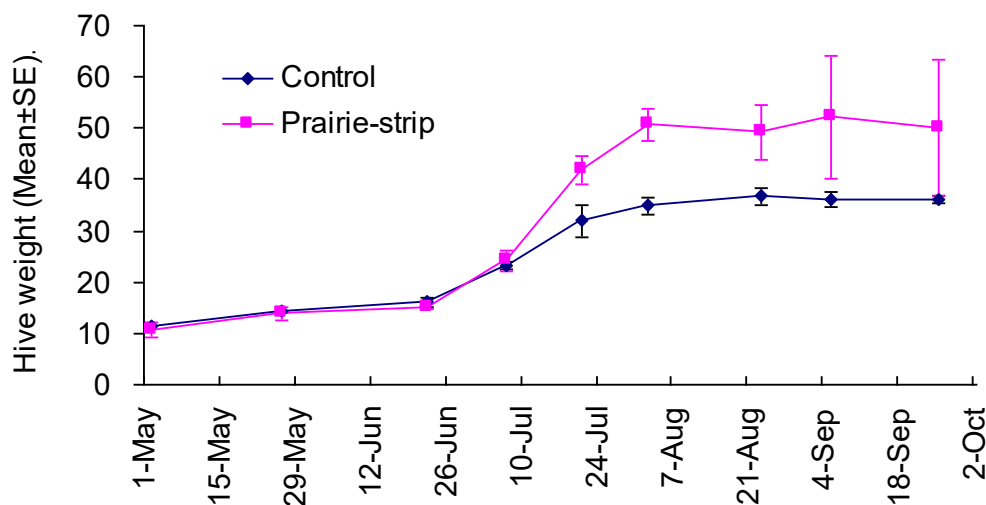


Figure 1. Cumulative weight of honey bee hives at control (cropland) and treatment farms (soybean or corn farms with prairie strips embedded in) during the 2017 season. Hive weight is primarily honey, a product of nectar foraging. Each treatment was represented by two locations. The improvement on the honey bee hives in prairie strips was not statistically significant, although may become significant with additional data collection.



Figure 2. Experimental honey bee hives in prairie strips at GUT (Story County) (left) and WOR (Story County) (right), July 2017.

STRIPS Water & Soil 2017 Summary

The following is an excerpt from the most recent quarterly report on some of the soil and water research Matt Helmers's lab is conducting on prairie STRIPS. Not all study sites have water monitoring ongoing, but we thought it may be of interest to people regardless.

Surface water runoff monitoring for the season concluded at the beginning of November due to freezing temperatures. The automated water samplers were shut down and brought in from the field until next monitoring season. In early October, there was a single runoff sample collected from the RHO site (experimental control watershed). Groundwater continues to be monitored on a monthly basis. Minor maintenance and upkeep to the flumes and water samplers continues throughout the season. Progress has been made with nutrient analyses.

[On the following pages], figures 1-4 display data related to surface water monitoring such as rain and surface runoff, total suspended solids, dissolved nitrogen (nitrate and nitrite) and dissolved phosphorus (orthophosphate) for the 2016 season as well as the most up to date set of data from 2017. These represent a subset of the water quality parameters we are measuring. Other measurements (total nitrogen, total phosphorus) have yet to be fully analyzed by our water quality laboratory. Our experimental sites, both in 2016 and 2017, have experienced somewhat rare conditions in terms of a relatively few number of significant surface runoff-producing rain events. Generally speaking, when there is a noticeable difference within sites and between the control (watershed with no prairie strips) and treatment (watershed with prairie strips), the cumulative export of total suspended solids and nutrients is less in the treatment watersheds. One exception to this generalization is the MCN site in 2017. This year, we have had a problem with runoff being diverted around the control site's monitoring equipment. At that site, our equipment is located within the grassed waterway, but due to a significant "lip" on the edges of the grassed waterway a portion of the surface runoff is not entering the waterway. This has led to underrepresented runoff estimates at the MCN control watershed which is being corrected for future monitoring.

Figures 5-7 illustrate our most up to date set of groundwater data including depth from ground surface, dissolved nitrogen and dissolved phosphorus concentrations. Sites have 3 shallow groundwater wells, except for the GUT site, which has 2 since there is no control watershed at that site. There is a single well placed at the top (graphed dotted lines) and bottom (graphed solid lines) edges of the most downhill prairie strip in the treatment (TRT, graphed blue lines) watersheds, and a well placed at the bottom of the control (CTL, graphed red lines) watershed. Early in the year, groundwater at most sites was relatively shallow and tended to slowly get deeper until about September, when levels began to rebound. Nitrate-N concentrations are consistently in the 10 mg/L range and we see reductions in concentrations of nitrate-N at the downstream side of the bottom prairie strip at three of the sites. Overall the level of dissolved P is less than 0.1 mg/L at most sites and we see little treatment effect of prairie strips.



An H-flume in a prairie strip at Neal Smith National Wildlife Refuge.

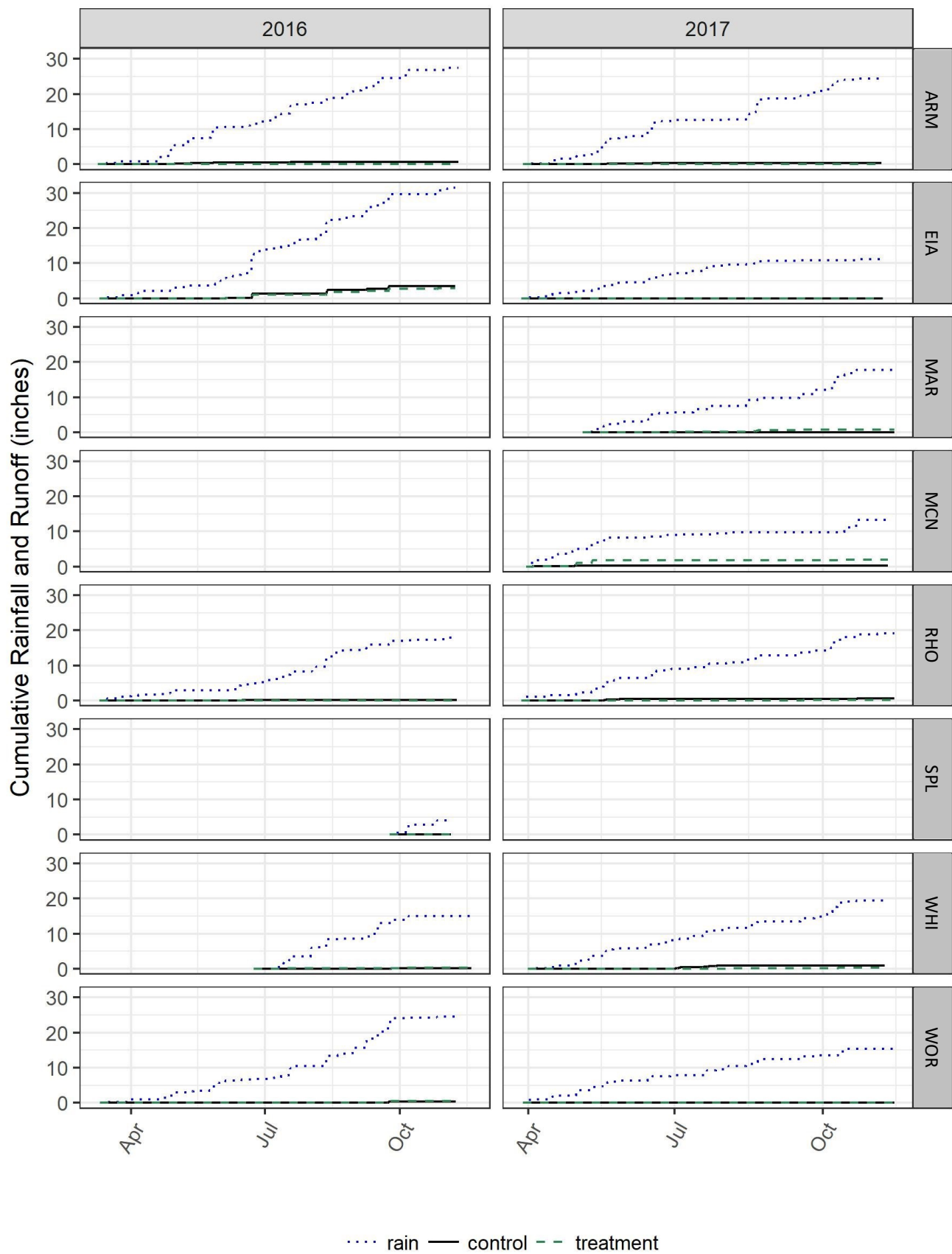


Figure 1. Rain and surface runoff in 2016 and 2017. Lack of many intense rain events has led to little surface runoff across the sites, relative to the rainfall totals.

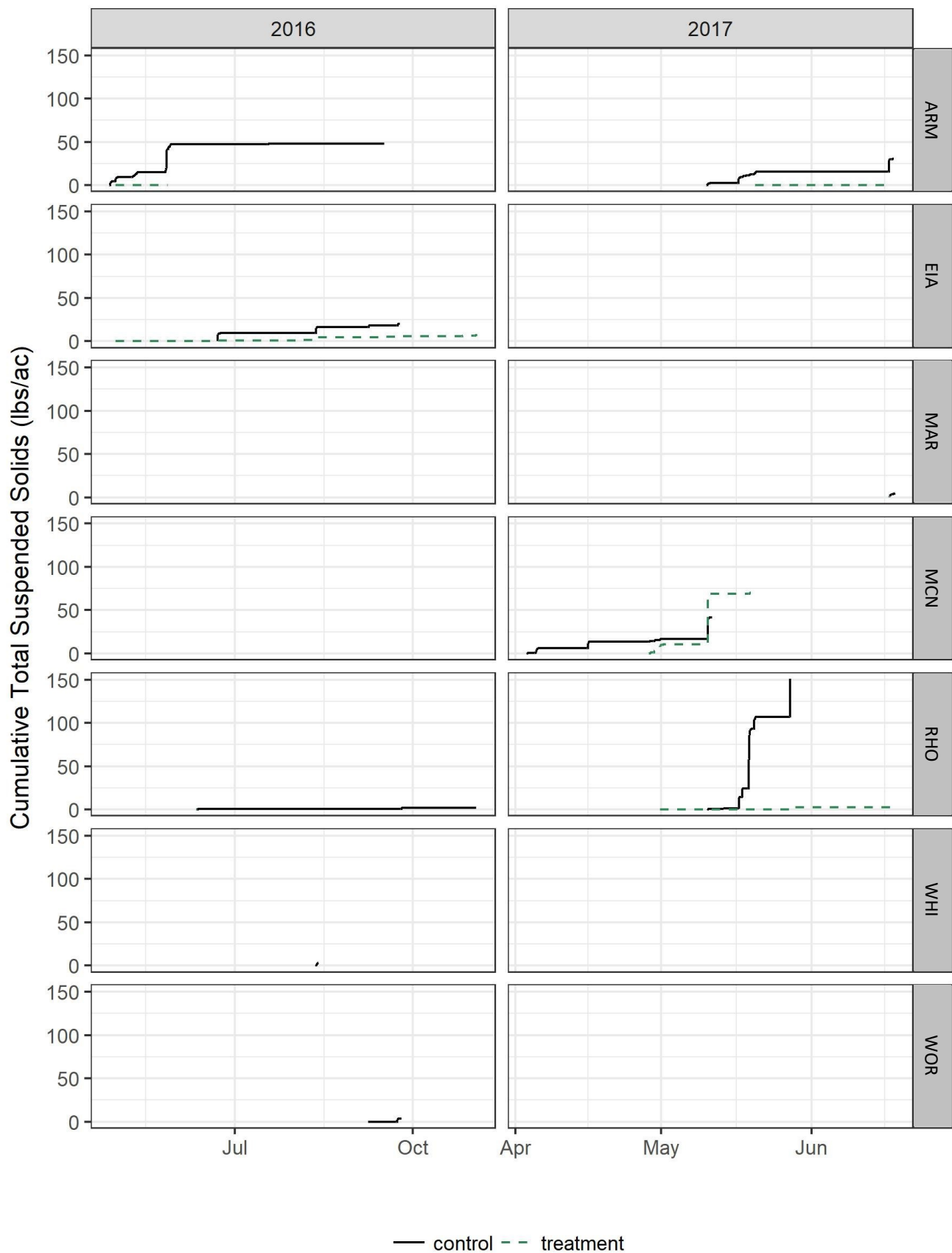


Figure 2. Total suspended solids exported from the experimental watersheds. Cumulative totals are low due to little surface runoff from both the control and treatment. At most sites, there does still appear to be a reducing effect on suspended solids loss by prairie strips (treatment).

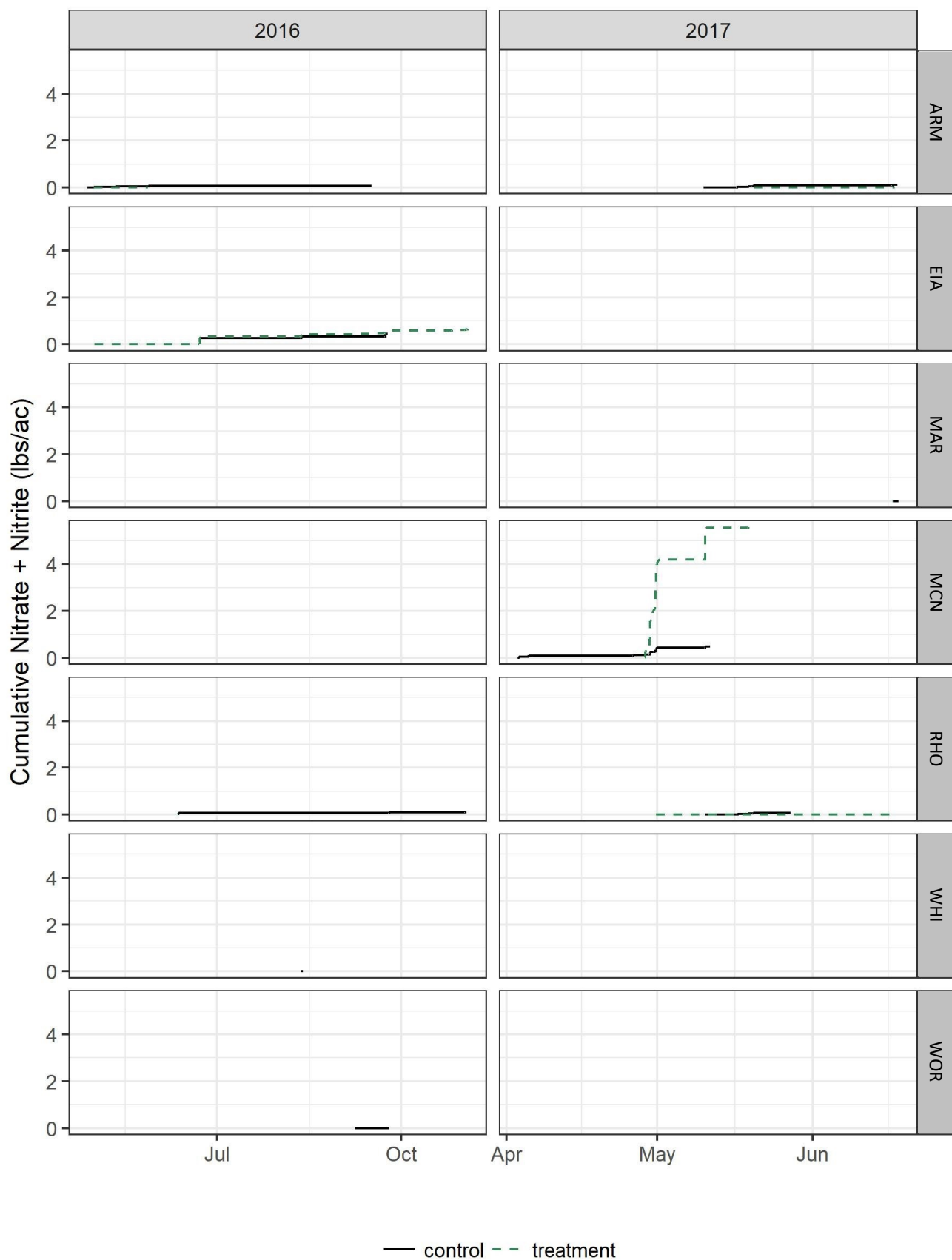


Figure 3. Nitrate exported from the experimental watersheds. Most sites have almost no nitrate losses due to small amounts of surface runoff. MCN treatment in 2017 has yielded relatively high levels of nitrate.

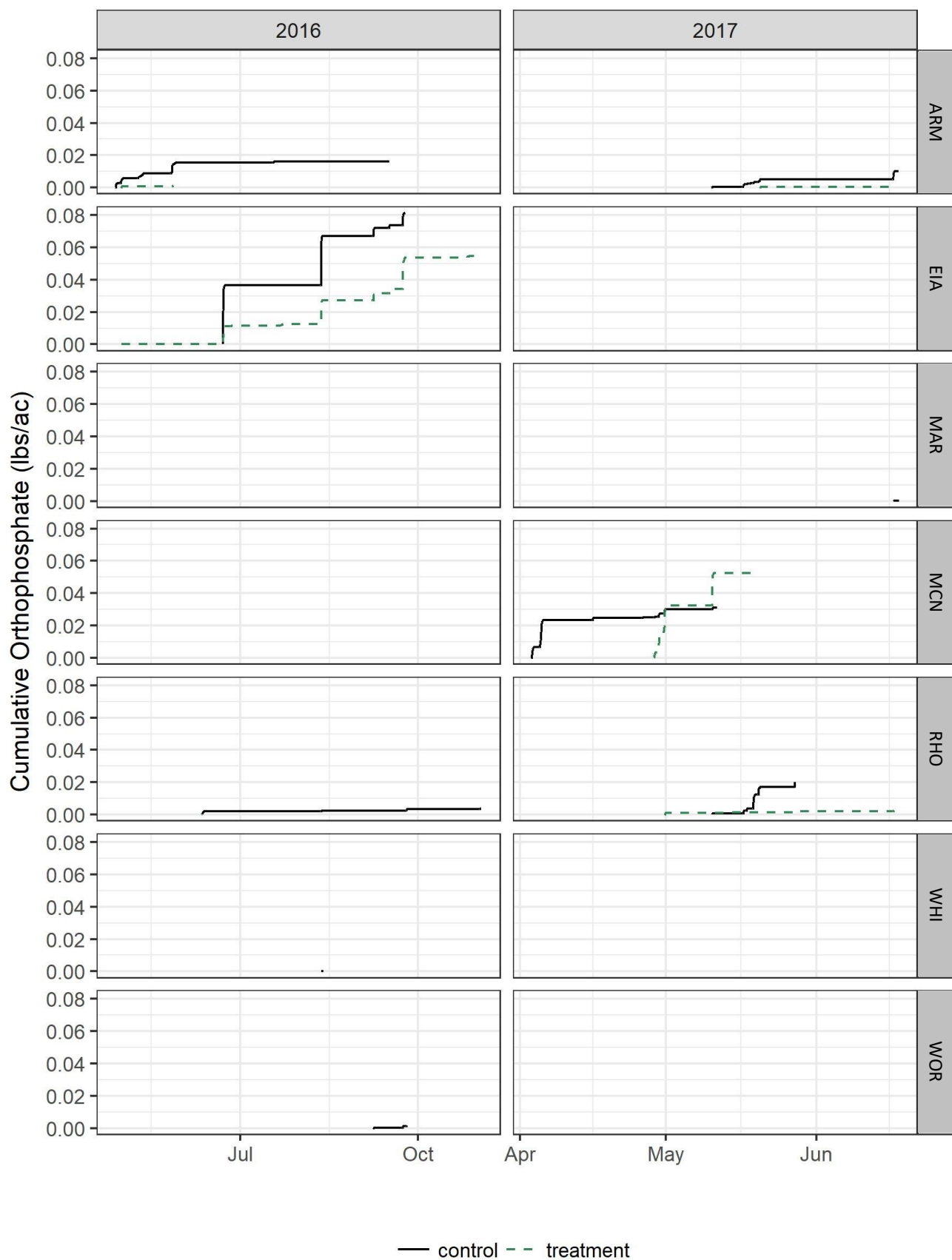


Figure 4. Orthophosphate exported from experimental watersheds. Orthophosphate export levels have been relatively low. Most sites demonstrate a reduction in orthophosphate loss where there are prairie strips.

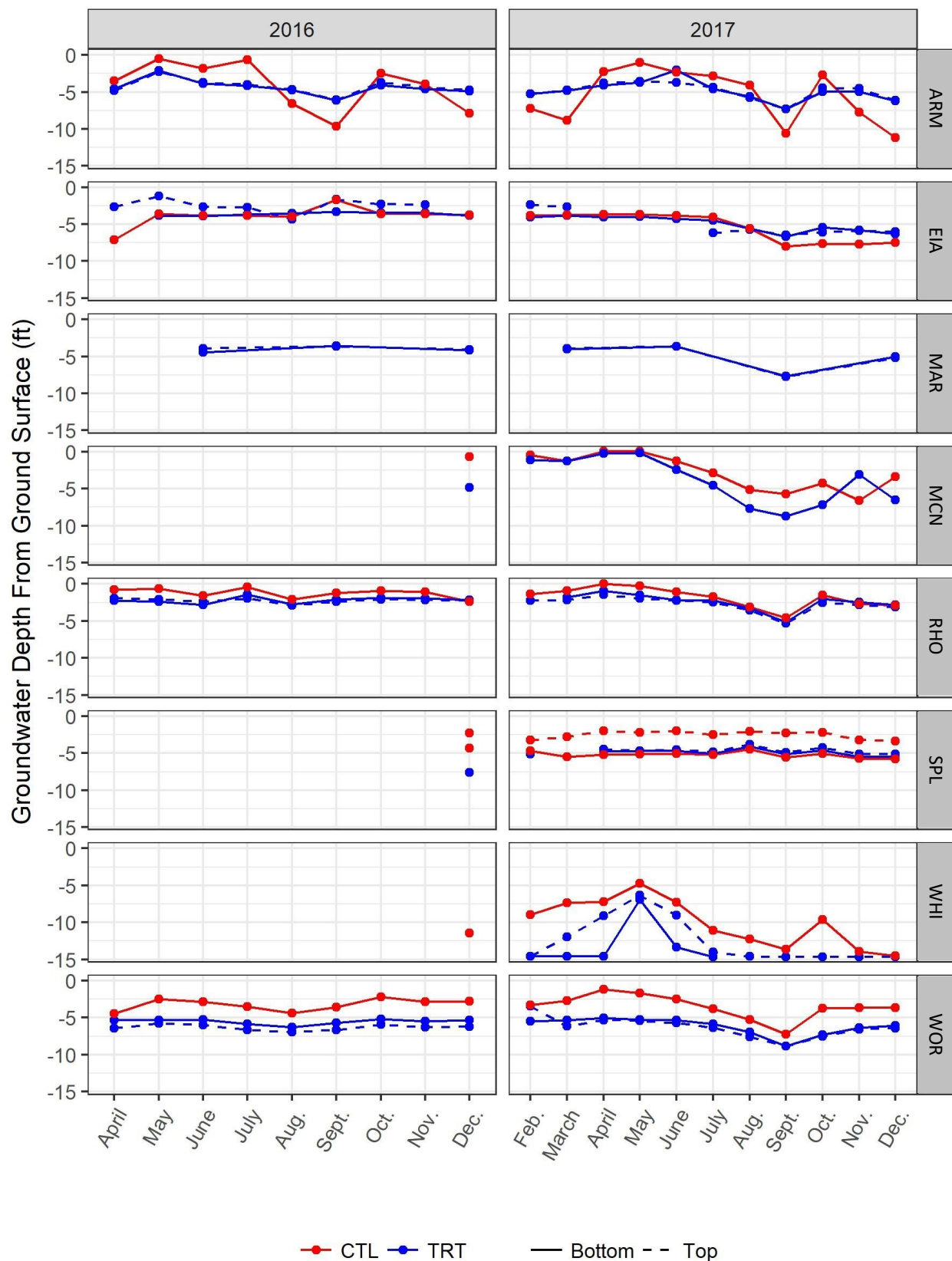


Figure 5. Groundwater depths from ground surface. Sites have 3 shallow groundwater wells, except for the GUT site, which has 2 since there is no control watershed at that site. There is a single well placed at the top (dotted lines) and bottom (solid lines) edges of the most downhill prairie strip in the treatment (TRT, blue lines) watersheds, and a well placed at the bottom of the control (CTL, red lines) watershed.

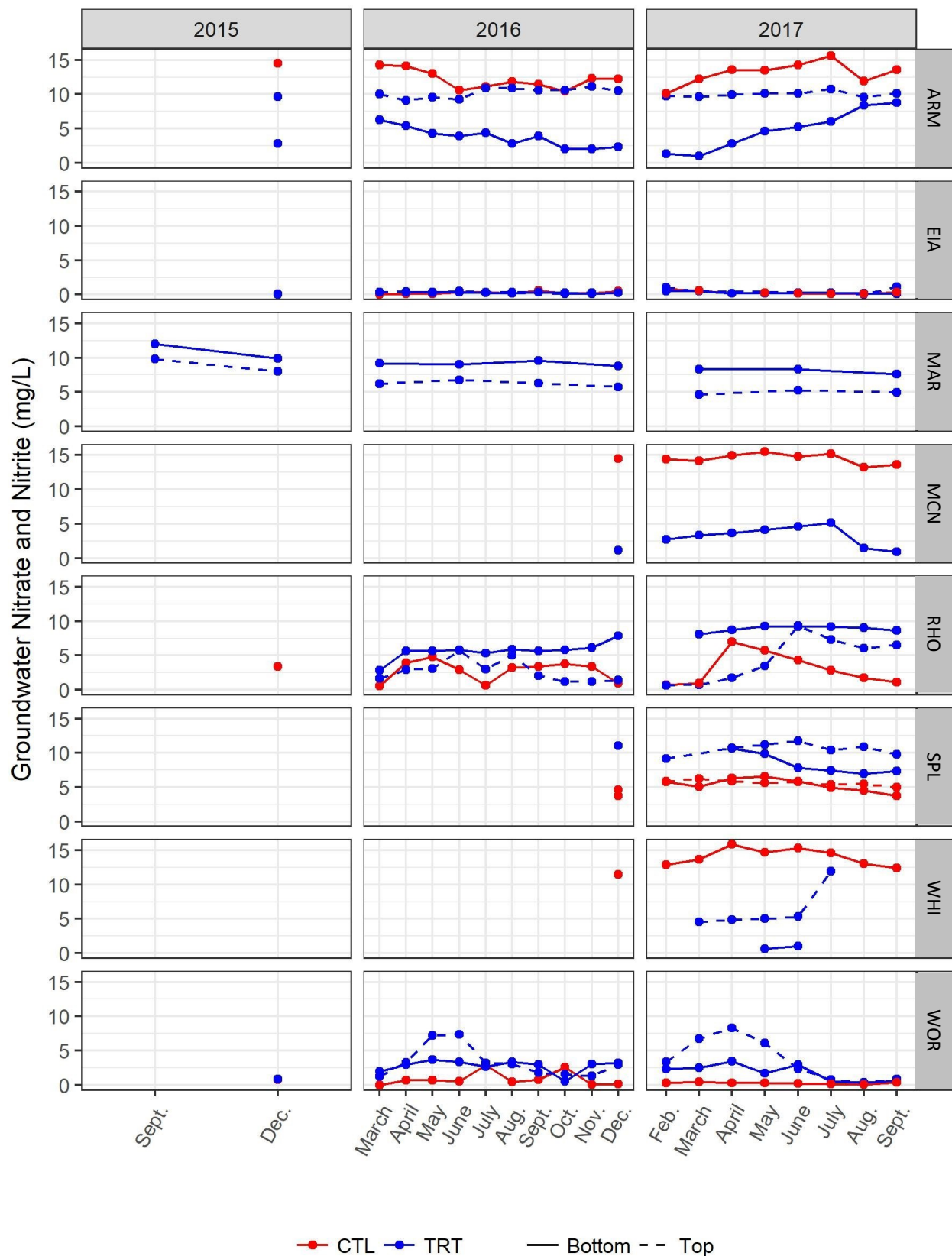


Figure 6. Groundwater dissolved nitrogen (nitrate and nitrite) concentrations. Sites have 3 shallow groundwater wells, except GUT, which has 2 since there is no control watershed at that site. There is a single well placed at the top (dotted lines) and bottom (solid lines) edges of the most downhill prairie strip in the treatment (TRT, blue lines) watersheds, and a well placed at the bottom of the control (CTL, red lines) watershed.

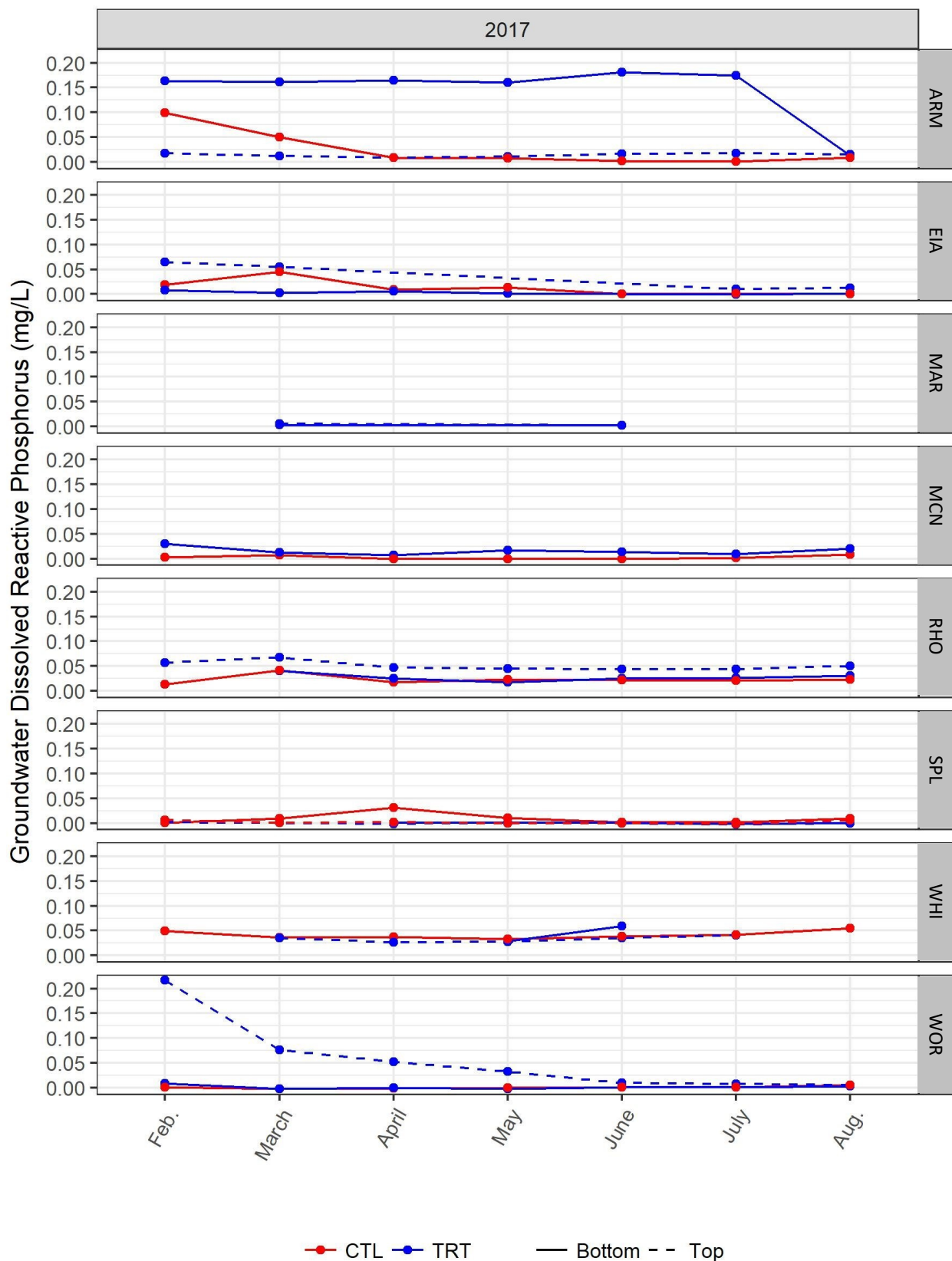
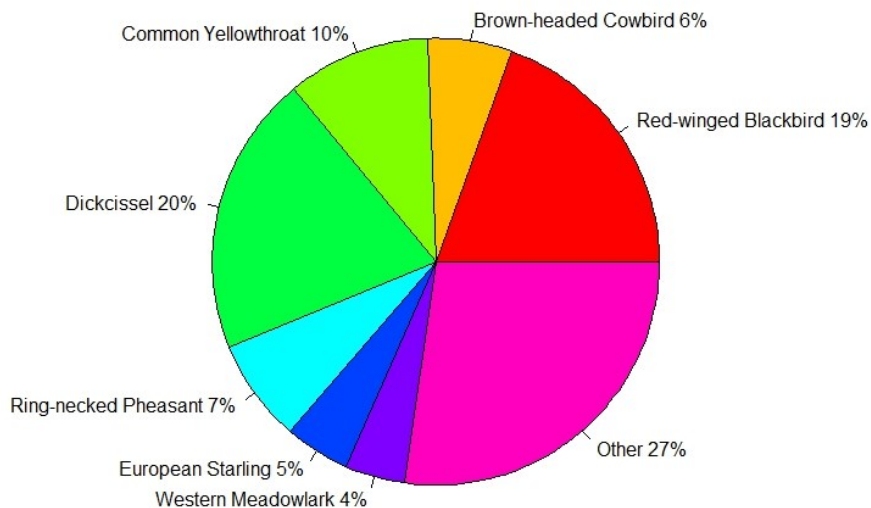


Figure 7. Groundwater dissolved phosphorus concentrations. Sites have 3 shallow groundwater wells, except for the GUT site, which has 2 since there is no control watershed at that site. There is a single well placed at the top (dotted lines) and bottom (solid lines) edges of the most downhill prairie strip in the treatment (TRT, blue lines) and a well placed at the bottom of the control (CTL, red lines) watershed.

ARM 2017 Summary

This page contains a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017.

Species Detected During Bird Point Counts



Bird species detected during bird point counts on your farm



Birds Recorded

American Goldfinch
American Robin
Barn Swallow
Brown-headed Cowbird
Blue Jay
Brown Thrasher*
Common Grackle
Common Yellowthroat*
Dickcissel*
Eastern Bluebird
Eastern Phoebe
European Starling
Field Sparrow*
Gray Catbird
Grasshopper Sparrow*
House Wren
Indigo Bunting
Killdeer
Nothorn Bobwhite*
Northern Cardinal
Red-breasted Woodpecker
Red-headed Woodpecker
Ring-necked Pheasant
Red-winged Blackbird
Song Sparrow
Western Meadowlark*
*Species of Greatest Conservation Need



Reptiles

Brown Snake
Common Garter Snake
Lined Snake*
Northern Prairie Skink*
Western Fox Snake*
Yellow-bellied Racer

*Species of Greatest Conservation Need



Small Mammals

Northern Short-tailed Shrew
Peromyscus Mice Spp.

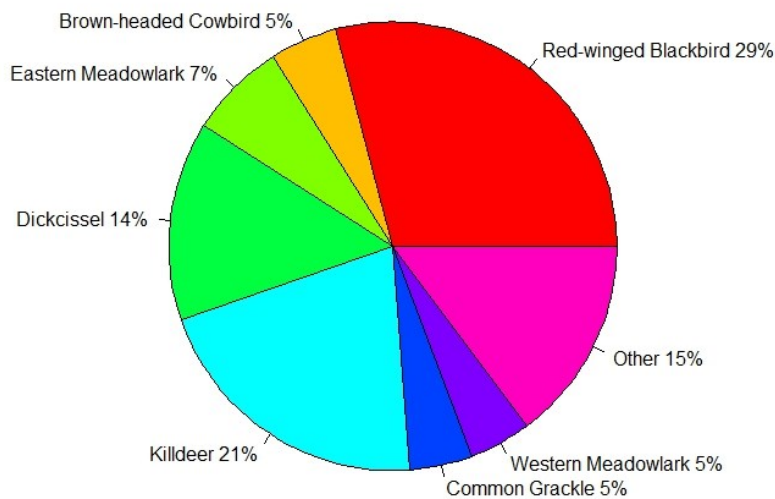


Jordan Giese conducting a bird point count.

EIA 2017 Summary

This page contains a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017.

Species Detected During Bird Point Counts



Bird species detected during bird point counts on your farm



Birds Recorded

American Crow
American Goldfinch
American Robin
Barn Swallow
Brown-headed Cowbird
Bobolink*
Common Grackle
Common Nighthawk
Common Yellowthroat*
Dickcissel*
Eastern Meadowlark*
Grasshopper Sparrow*
Killdeer
Mourning Dove
Northern Bobwhite*
Ring-necked Pheasant
Red-winged Blackbird
Savannah Sparrow
Song Sparrow
Vesper Sparrow
Western Meadowlark*
*Species of Greatest Conservation Need



Reptiles

Plains Garter Snake*
*Species of Greatest Conservation Need



A Tiger Salamander found at the WHI site.



Jordan Giese conducting a bird point count.



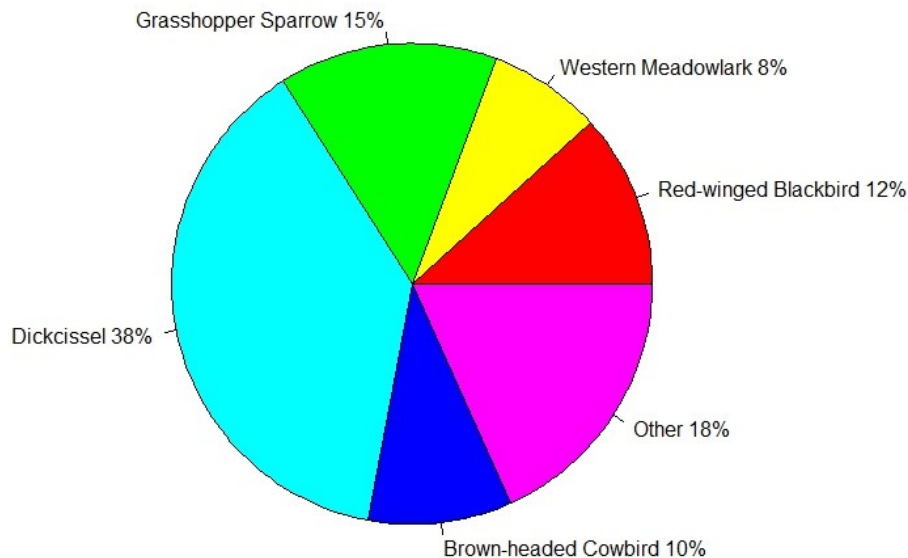
Small Mammals

Northern Short-tailed Shrew
Peromyscus Mice Spp.

GUT 2017 Summary

This page contains a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017.

Species Detected During Bird Point Counts



Bird species detected during bird point counts on your farm

Birds Recorded

American Crow
American Goldfinch
American Robin
Barn Swallow
Brown-headed Cowbird
Blue Jay
Brown Thrasher*
Common Grackle
Common Yellowthroat*
Dickcissel*
Eastern Meadowlark*
Gray Catbird
Grasshopper Sparrow*
House Wren
Killdeer
Lark Sparrow
Mourning Dove
Northern Cardinal
Ring-necked Pheasant
Ruby-throated Hummingbird
Red-winged Blackbird
Song Sparrow
Vesper Sparrow
Western Meadowlark*
*Species of Greatest Conservation Need



Jordan Giese conducting a bird point count.



Reptiles

Common Garter Snake
Plains Garter Snake*
Western Fox Snake*
*Species of Greatest Conservation Need



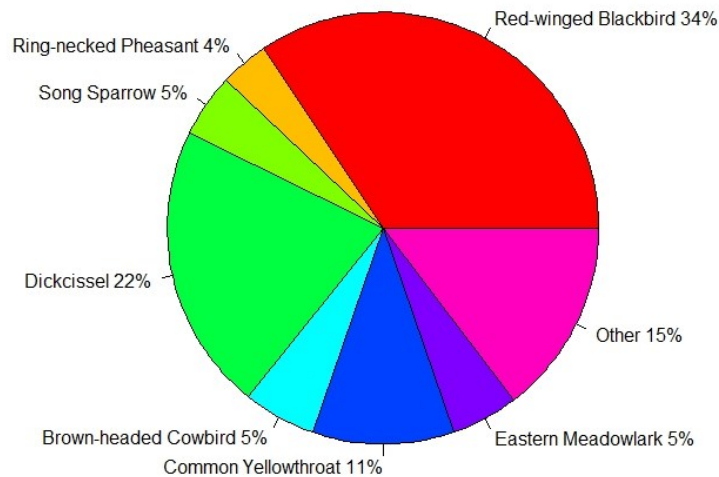
Small Mammals

Least Shrew*
Meadow Vole
Northern Short-tailed Shrew
Peromyscus Mice Spp.
*Species of Greatest Conservation Need

MCN 2017 Summary

This page contains a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017.

Species Detected During Bird Point Counts



Bird species detected during bird point counts on your farm



Birds Recorded

American Crow
American Goldfinch
American Robin
Barn Swallow
Brown-headed Cowbird
Bobolink*
Common Grackle
Common Yellowthroat*
Dickcissel*
Eastern Meadowlark*
Horned Lark*
Indigo Bunting
Killdeer
Ring-necked Pheasant
Red-winged Blackbird
Song Sparrow
Vesper Sparrow
Western Meadowlark*
*Species of Greatest Conservation Need



Reptiles

Brown Snake
Common Garter Snake
Lined Snake*
*Species of Greatest Conservation Need



Small Mammals

Masked Shrew
Meadow Jumping Mouse
Meadow Vole
Northern Short-tailed Shrew
Peromyscus Mice Spp.

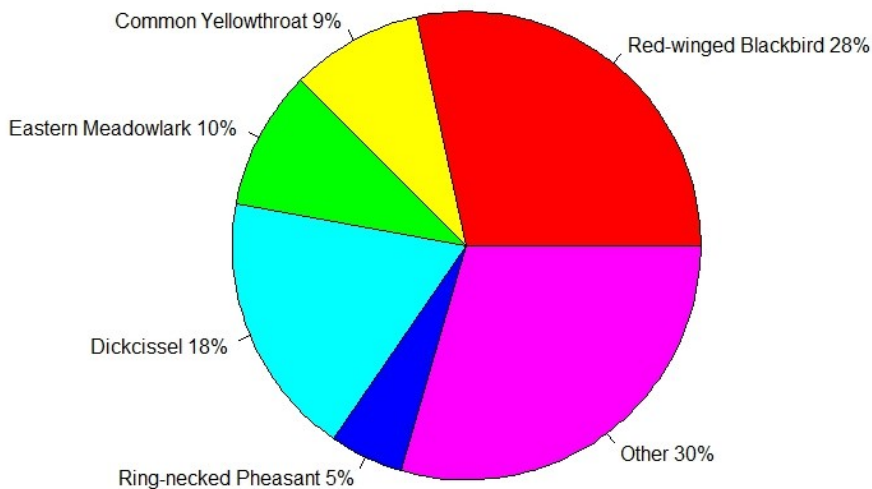


Jordan Giese conducting a bird point count.

RHO 2017 Summary

This page contains a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017.

Species Detected During Bird Point Counts



Bird species detected during bird point counts on your farm



Birds Recorded

American Goldfinch
American Robin
Brown-headed Cowbird
Brown Thrasher*
Common Grackle
Common Yellowthroat*
Dickcissel*
Eastern Meadowlark*
House Wren
Indigo Bunting
Killdeer
Mourning Dove
Red-headed Woodpecker
Ring-necked Pheasant
Rock Pigeon
Red-winged Blackbird
Sedge Wren
Vesper Sparrow
*Species of Greatest Conservation Need



Jordan Giese conducting a bird point count.



Reptiles

Common Garter Snake
Plains Garter Snake*
Western Fox Snake*
*Species of Greatest Conservation Need



Small Mammals

Peromyscus Mice Spp.

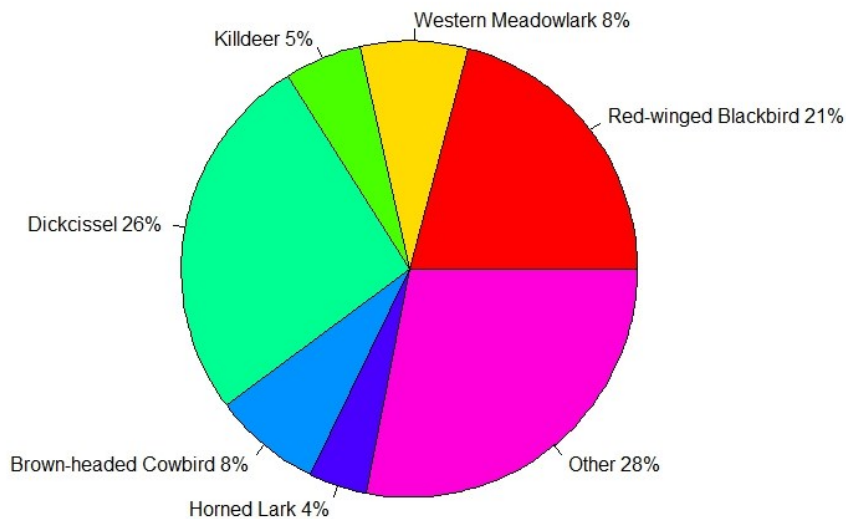


A Tiger Salamander found at the WHI site.

SLO 2017 Summary

This page contains a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017.

Species Detected During Bird Point Counts



Bird species detected during bird point counts on your farm



Birds Recorded

American Crow
American Goldfinch
American Robin
Barn Swallow
Black-capped Chickadee
Brown-headed Cowbird
Brown Thrasher*
Chipping Sparrow
Common Grackle
Common Yellowthroat*
Dickcissel*
Eastern Meadowlark*
European Starling
Grasshopper Sparrow*
House Finch
Horned Lark*
House Sparrow
House Wren
Killdeer
Mourning Dove
Northern Cardinal
Ring-necked Pheasant
Red-winged Blackbird
Savannah Sparrow
Song Sparrow
Upland Sandpiper*
Vesper Sparrow
Western Meadowlark*
*Species of Greatest Conservation Need



Reptiles

Brown Snake
Western Fox Snake*
*Species of Greatest Conservation Need



Small Mammals

Northern Short-tailed Shrew
Peromyscus Mice Spp.

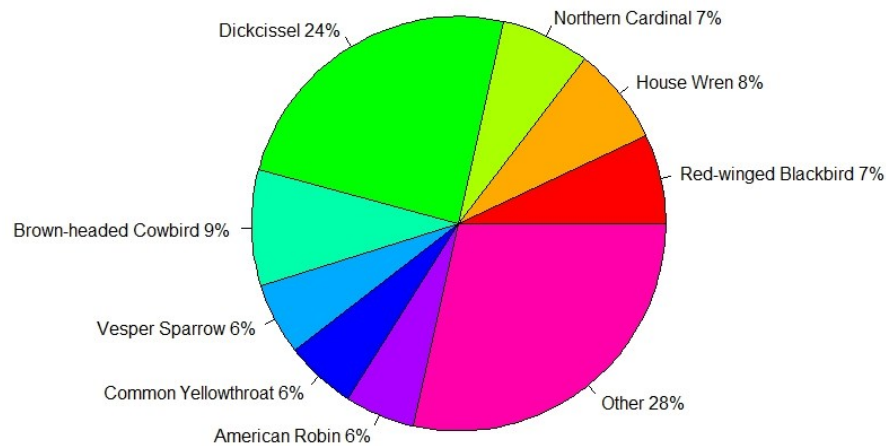


Jordan Giese conducting a bird point count.

WOR 2017 Summary

This page contains a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017.

Species Detected During Bird Point Counts



Bird species detected during bird point counts on your farm



Birds Recorded

American Goldfinch
American Robin
Barn Swallow
Black-capped Chickadee
Brown-headed Cowbird
Blue Jay
Brown Thrasher*
Common Grackle
Common Yellowthroat*
Dickcissel*
Eastern Bluebird
Eastern Kingbird*
Field Sparrow*
Grasshopper Sparrow*
House Wren
Killdeer
Mourning Dove
Northern Cardinal
Ring-necked Pheasant
Red-winged Blackbird
Song Sparrow
Tree Swallow
Vesper Sparrow
Western Meadowlark*
*Species of Greatest Conservation Need



Jordan Giese conducting a bird point count.



Reptiles

Brown Snake
Common Garter Snake
Plains Garter Snake*
Western Fox Snake*
*Species of Greatest Conservation Need



Small Mammals

Meadow Vole
Northern Short-tailed Shrew
Peromyscus Mice Spp.

INH 2017 Summary

This page is a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017.

The following page has a map showing the all of the nests we have located on your farm.



Birds Nesting

Nests

Common Yellowthroat*

2

Dickcissel*

13

Killdeer

1

Meadowlark Sp.*

3

Mourning Dove

3

Red-winged Blackbird

46

Ring-necked Pheasant

1

Song Sparrow

1

Vesper Sparrow

1

*Species of Greatest Conservation
Need

Small Mammals

Peromyscus (Mouse) Sp.

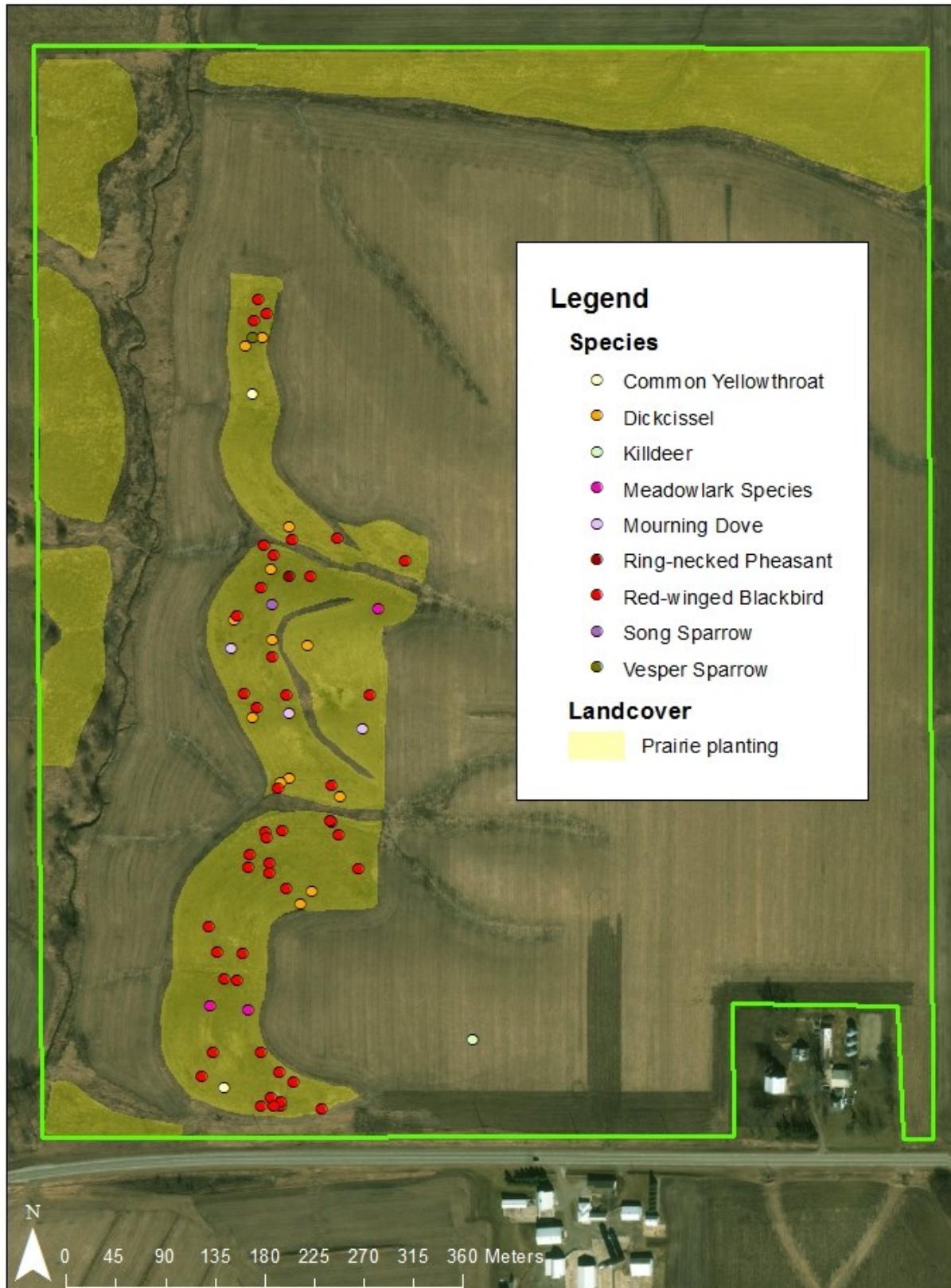


Blazing star blooming at INHF Lanz Farm



Prairie strip blooming at INHF Lanz Farm

INH Nests



Map Created By: Brandon Silker, ISU STRIPS Date: 1/16/2018

KAL 2017 Summary

This page is a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017. The following page has a map showing the all of the nests we have located on your farm.



Birds Recorded

American Crow
 American Robin
 Barn Swallow
 Brown-headed Cowbird
 Brown Thrasher*
 Common Grackle
 Common Yellowthroat*
 Dickcissel*
 Eastern Kingbird*
 Eastern Meadowlark*
 Eastern Phoebe
 Eastern Wood-Pewee
 Field Sparrow*
 Gray Catbird
 Horned Lark*
 House Wren
 Indigo Bunting
 Killdeer
 Mourning Dove
 Northern Cardinal
 Ring-necked Pheasant
 Red-winged Blackbird
 Song Sparrow
 Vesper Sparrow
 Western Meadowlark*
 *Species of Greatest Conservation Need



Birds Nesting

Birds Nesting	# Nests
American Robin	8
Dickcissel*	4
Meadowlark Sp.*	3
Mourning Dove	2
Red-winged Blackbird	18

*Species of Greatest Conservation Need



Small Mammals

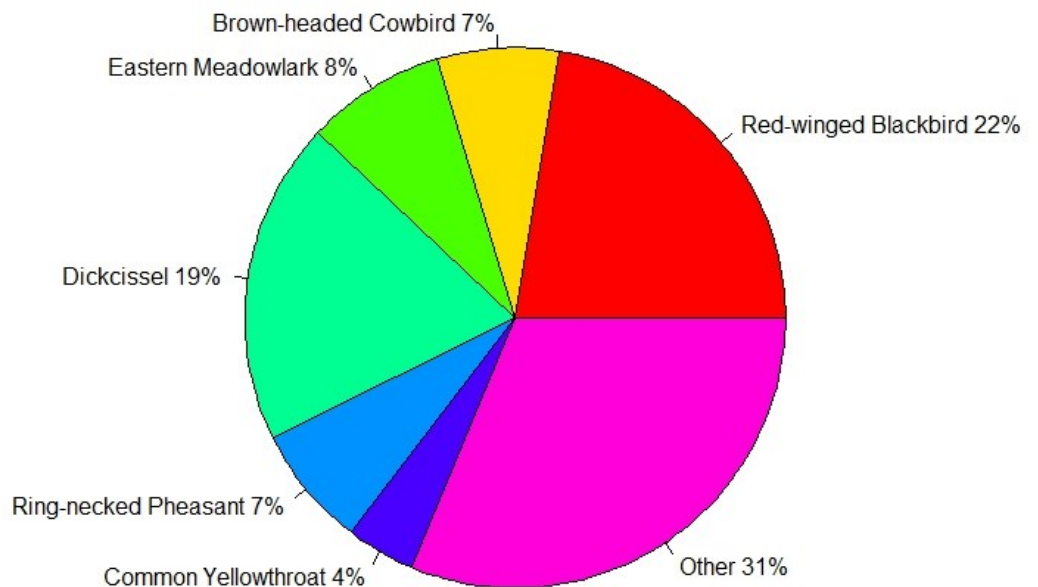
Microtus (Vole) Sp.
 Northern Short-tailed Shrew
 Peromyscus (Mouse) Sp.



Reptiles

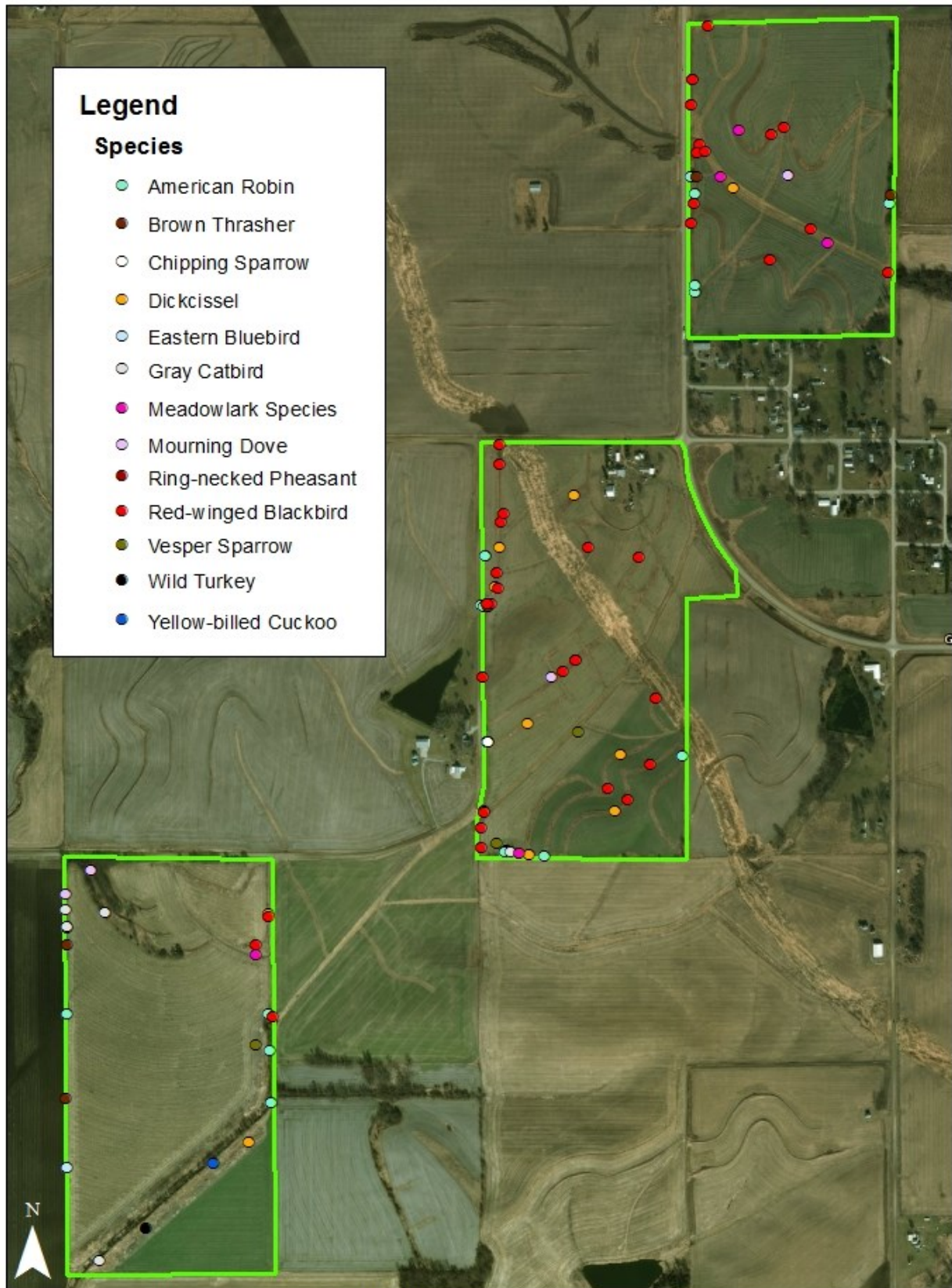
Eastern Yellow-bellied Racer*
 Plains Garter*
 Western Fox Snake*
 *Species of Greatest Conservation Need

Species Detected During Bird Point Counts



Bird species detected during bird point counts on your farm

KAL Nests



Map Created By: Brandon Silker, ISU STRIPS Date: 1/16/2018

NIR 2017 Summary

This page is a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017. The following page has a map showing the all of the nests we have located on your farm.



Birds Nesting # Nests

American Goldfinch	2
American Robin	2
Brown Thrasher*	2
Dickcissel*	13
Gray Catbird	2
Meadowlark Sp.*	1
Red-winged Blackbird	8
Unidentified Sparrow	1
Vesper Sparrow	2

*Species of Greatest Conservation Need



Reptiles

Brown Snake
Prairie Skink*
*Species of Greatest Conservation Need



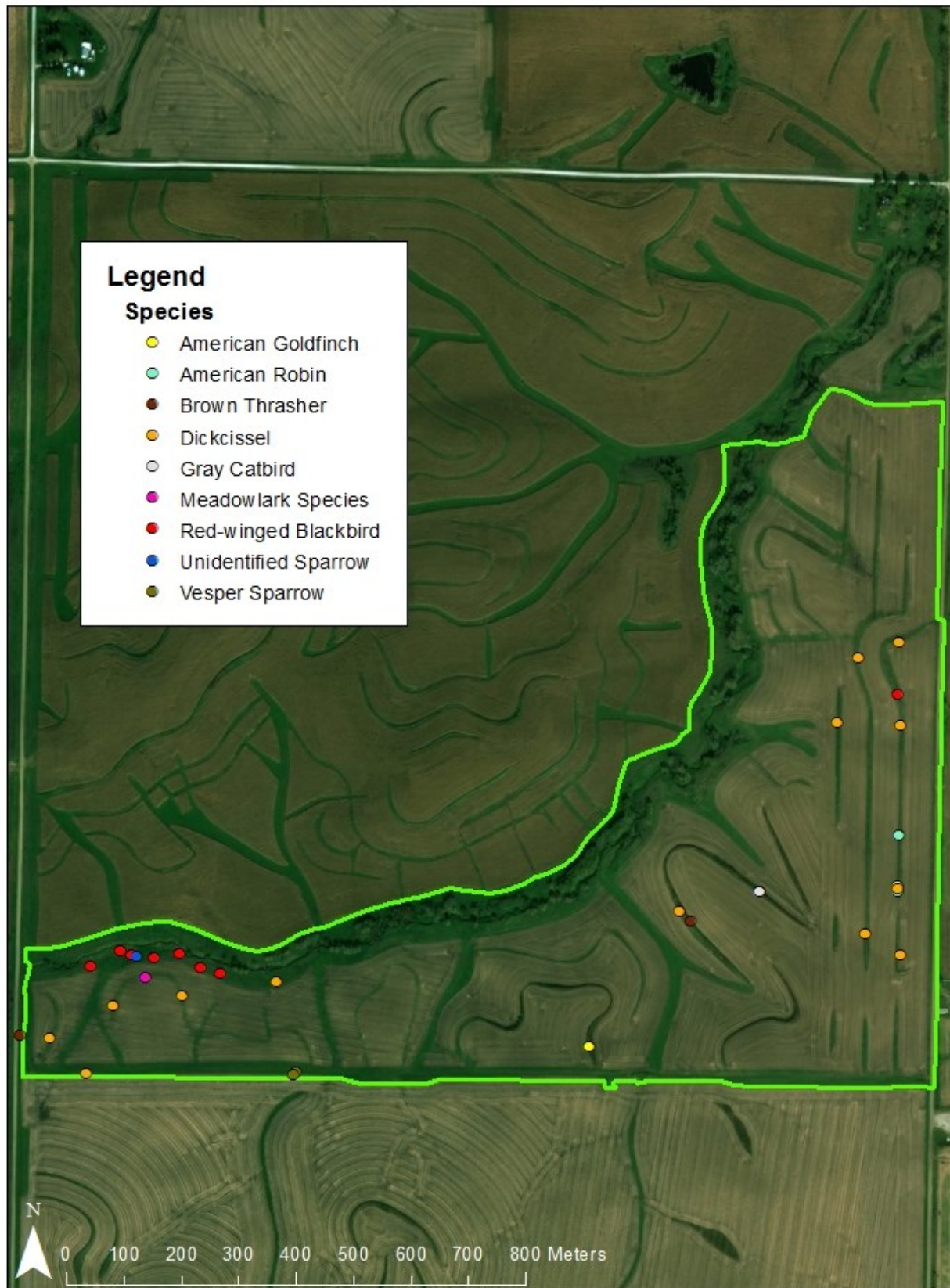
Small Mammals

Peromyscus (Mouse) Sp.



Jake Figge records nest data at NIR site after a thunderstorm has rolled through.

NIR Nests



SMI 2017 Summary

This page is a summary of the vertebrate wildlife we found specifically on your farm. We thought you would be interested to see the actual list of birds, reptiles, amphibians, & mammals we recorded on your farm in 2017. The following page has a map showing the all of the nests we have located on your farm.



Birds Recorded

American Goldfinch
 American Robin
 Brown-headed Cowbird
 Bobolink*
 Common Grackle
 Common Yellowthroat*
 Dickcissel*
 Eastern Kingbird*
 Eastern Meadowlark*
 Horned Lark*
 Killdeer
 Mourning Dove
 Ring-necked Pheasant
 Red-winged Blackbird
 Sedge Wren
 Song Sparrow
 Tree Swallow
 Upland Sandpiper*
 Vesper Sparrow
 Western Meadowlark*
 *Species of Greatest Conservation Need

Birds Nesting

American Robin
 Dickcissel*
 Mourning Dove
 Red-winged Blackbird*
 Ring-necked Pheasant
 Upland Sandpiper*
 Vesper Sparrow
 *Species of Greatest Conservation Need

Nests

2
 19
 1
 43
 1
 3
 4

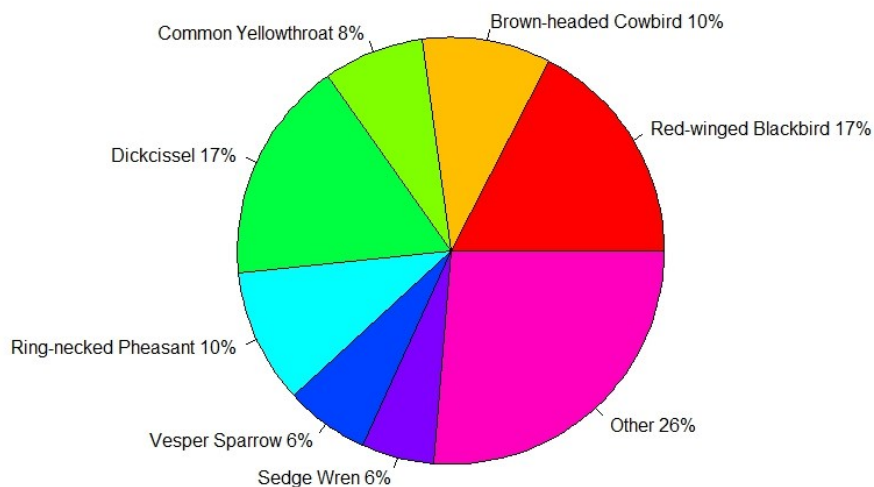
Reptiles

American Toad
 Prairie Skink*
 *Species of Greatest Conservation Need

Small Mammals

Least Shrew*
 Microtus (Vole) Sp.
 Northern Short-tailed Shrew
 Peromyscus (Mouse) Sp.
 *Species of Greatest Conservation Need

Species Detected During Bird Point Counts

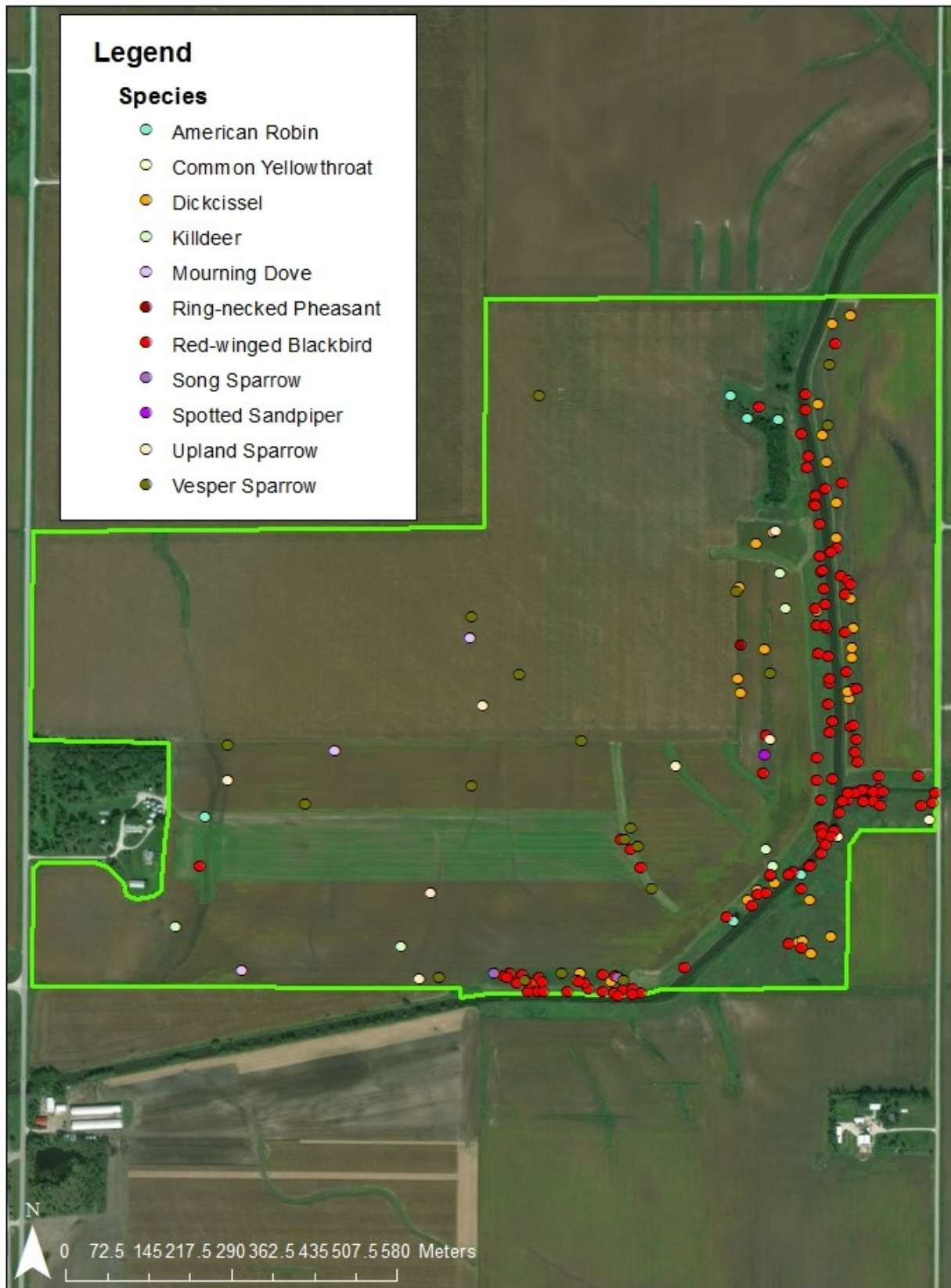


Bird species detected during bird point counts on your farm



Northern Prairie Skink found on your farm.

SMI Nests



Map Created By: Brandon Silker, ISU STRIPS Date: 1/16/2018

WHI 2017 Summary

This page is a summary of the vertebrate wildlife we found specifically at WHI in 2017. The following pages have maps showing the all of the nests we have located on your property.



Birds Recorded

American Goldfinch	Field Sparrow*
American Robin	Gray Catbird
Barn Swallow	Grasshopper Sparrow*
Brown-headed Cowbird	Horned Lark*
Blue Jay	Killdeer
Bobolink*	Mourning Dove
Brown Thrasher*	Ring-necked Pheasant
Chipping Sparrow	Red-winged Blackbird
Common Grackle	Sedge Wren
Common Yellowthroat*	Song Sparrow
Dickcissel*	Vesper Sparrow
Eastern Bluebird	Western Meadowlark*
Eastern Meadowlark*	Wild Turkey

*Species of Greatest Conservation Need



Birds Nesting

Birds Nesting	# Nests
American Goldfinch	3
American Robin	1
Brown Thrasher*	1
Common Yellowthroat*	3
Dickcissel*	26
Killdeer	1
Meadowlark Sp.*	5
Mourning Dove	2
Red-winged Blackbird	65
Sedge Wren	2
Song Sparrow	3
Vesper Sparrow	4

*Species of Greatest Conservation Need



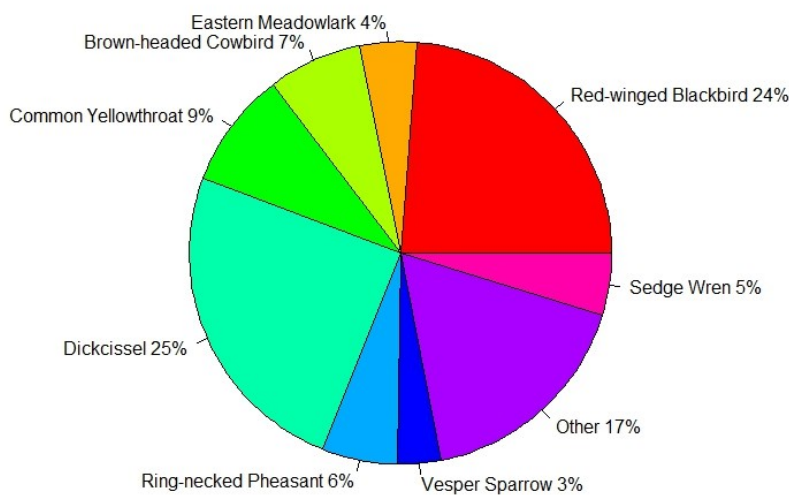
Reptiles & Amphibians

American Toad
Brown Snake
Northern Leopard Frog
Plains Garter Snake*
Prairie Ringneck Snake
Prairie Skink*
Red-sided Garter Snake
Tiger Salamander*
Western Fox Snake*

*Species of Greatest Conservation Need



Species Detected During Bird Point Counts

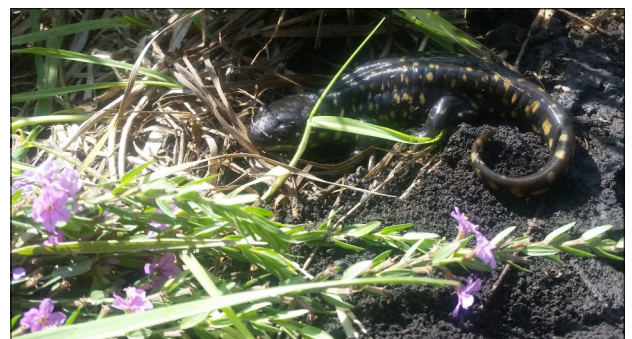


Bird species detected during bird point counts on your farm

Small Mammals

Eastern Chipmunk
Least Shrew*
Microtus (Vole) Sp.
Northern Short-tailed Shrew
Peromyscus (Mouse) Sp.

*Species of Greatest Conservation Need



A Tiger Salamander (a Species of Greatest Conservation Need) found in a wateryway in your STRIPS field.



Legend

Species

- American Goldfinch
- American Robin
- Brown Thrasher
- Dickcissel
- Grasshopper Sparrow
- Killdeer
- Meadowlark Species
- Mourning Dove
- Red-winged Blackbird
- Song Sparrow
- Vesper Sparrow

WHI STRIPS Field Nests



WHI Prairie Nests



Map Created By: Brandon Silker, ISU STRIPS Date: 1/16/2018