Iowa Farm Bureau's Margin Management Webinar Series presents:

Planning Habitat for Pollinators and Profitability

Thursday, July 26, 2018
1:00 pm

Sponsored by:

PEOPLE. PROGRESS. PRIDE.™
IOWA FARM BUREAU

Speakers:
Josh Divan and Kelsey Fleming
Pheasants Forever

Planning Habitat for Pollinators and Profitability

IOWA FARM BUREAU
PEOPLE. PROGRESS. PRIDE.

Josh Divan & Kelsey Fleming
Pheasants Forever
26 July 2018

PHEASANTS forever
QUAIL forever

Today's Agenda

- Introduction
- Pheasants and Pollinators
- Selecting a Project Location
- Project Considerations
  - ✓ Site Location
  - ✓ Seedbed Preparation
  - ✓ Seed Mix
  - ✓ Planting & Establishment
  - ✓ Management
- Technical and Financial Resources
- Questions & Answers

Pheasants Forever Inc.

The Habitat Organization

This non-profit conservation organization was founded in 1982. In 2005, Pheasants Forever formed a quail division, Quail Forever.

Mission: Pheasants Forever and Quail Forever are dedicated to the conservation of pheasants, quail and other wildlife through habitat improvements, public awareness, education, and land management policies and programs.

Pheasants Forever

The Habitat Organization

- Unique chapter model
  - 100% of locally raised funds are spent by local chapter volunteers
  - More than 700 PF/QF chapters nationally
  - Over 149,000 members of PF/QF
- 4-star rating with Charity Navigator

HABITAT CONSERVATION

In addition to benefitting wildlife, Pheasants Forever and Quail Forever habitat conservation projects provide water, soil and air quality benefits.

17 MILLION	530 THOUSAND	12 THOUSAND	$784 MILLION
Historical Acres Impacted	Historical Habitat Projects	Wildlife Habitat Projects in 2017	Historical Habitat & Education Program Expenditures

Pheasants Forever

Farm Bill Wildlife Biologist Program

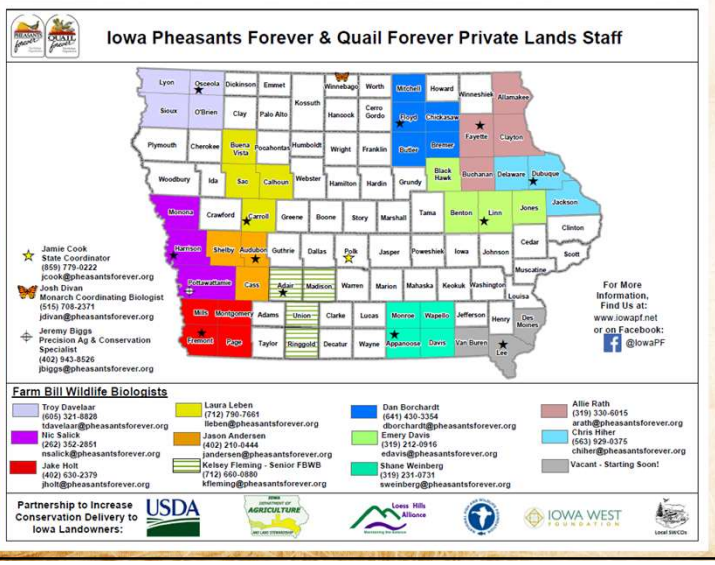
- This program was piloted in 2003 with 4 positions in South Dakota.
- Today, there are over 151 biologists working in 26 states for PF/QF.

Pheasants Forever

Iowa Team Staff

Pheasants Forever

Iowa Farm Bill Wildlife Biologist Program



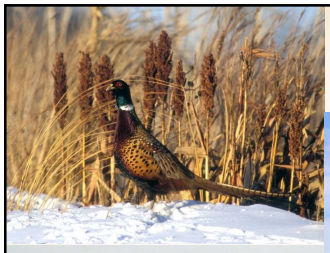
Pheasants Forever

Iowa Farm Bill Wildlife Biologist Program

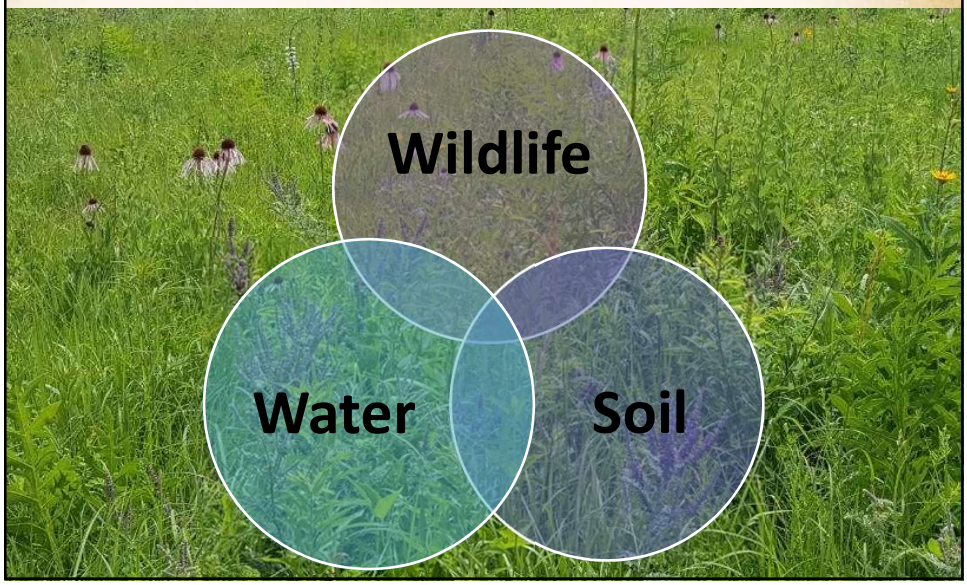
Since 2009, the Iowa Farm Bill Biologist Program has:

- 30,760 landowner contacts
- 209,920 acres impacted
- Conducted outreach and education events and field days

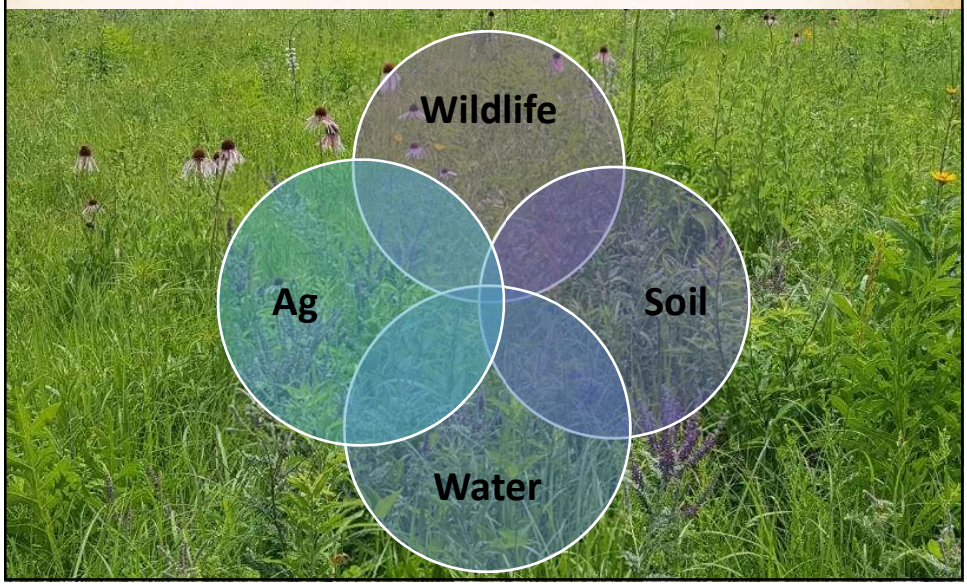
Pheasants & Pollinators?



What else benefits from diverse, native habitat?



What else benefits from diverse, native habitat?



Why all the press?

Iowa launches plan to save monarch butterflies

The Global Plight of Pollinators

The Monarch Butterfly is in Danger of Extinction – Here's What You Can Do to Help

PHEASANTS forever

QUAIL forever

Why are pollinators important?

Responsible for 1 in 3 bites of the food we consume!

Why are they declining?

- Loss of overwintering areas (monarchs)
- Loss of breeding habitat
- Loss of forage habitat
- Pesticide exposure
- Diseases & parasites
- Climate change

Why are they declining?

What factors are relevant and actionable within Iowa?

Loss of overwintering areas	=	INTERNATIONAL POLICY
Loss of breeding habitat	=	HABITAT
Loss of forage habitat	=	HABITAT
Pesticide exposure	=	HABITAT & BMPs
Diseases & parasites	=	HABITAT & BMPs
Climate change	=	PRAYER & HABITAT

Where can I provide habitat on my farm?

More places than you might think!

Right of Way

Repurpose Part of Mowed Yard

Underutilized/Abandoned Pasture

Odd Areas

Marginal/Unprofitable Cropland

Where can I provide habitat on my farm?

Other objectives?

Where can I provide habitat on my farm?

Underutilized/abandoned Pasture

Where can I provide habitat on my farm?

Odd areas

- Easy to spot but hard to define:
  - Abandoned acreages
  - Grain bin sites
  - Fallowed cropland or hay
  - Currently cropped:
    - Not necessarily marginal…

Where can I provide habitat on my farm?

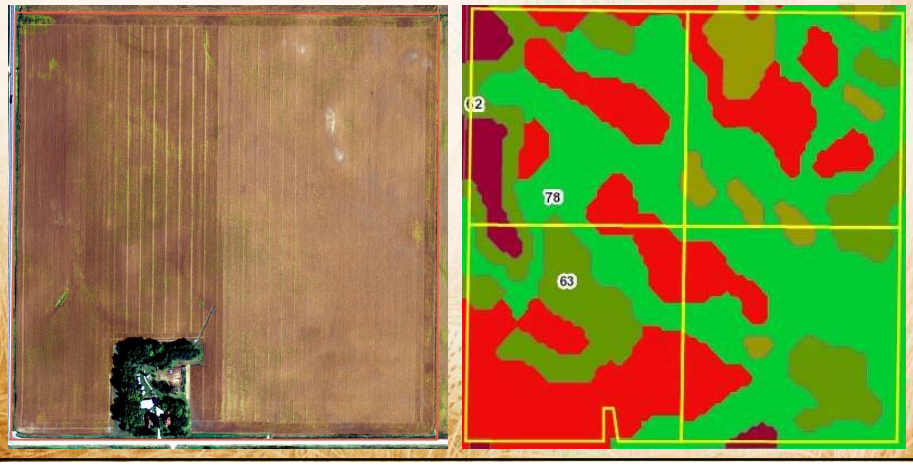
Marginal/unprofitable cropland

On the average farm, regardless of location:

Where can I provide habitat on my farm?

Marginal/unprofitable cropland

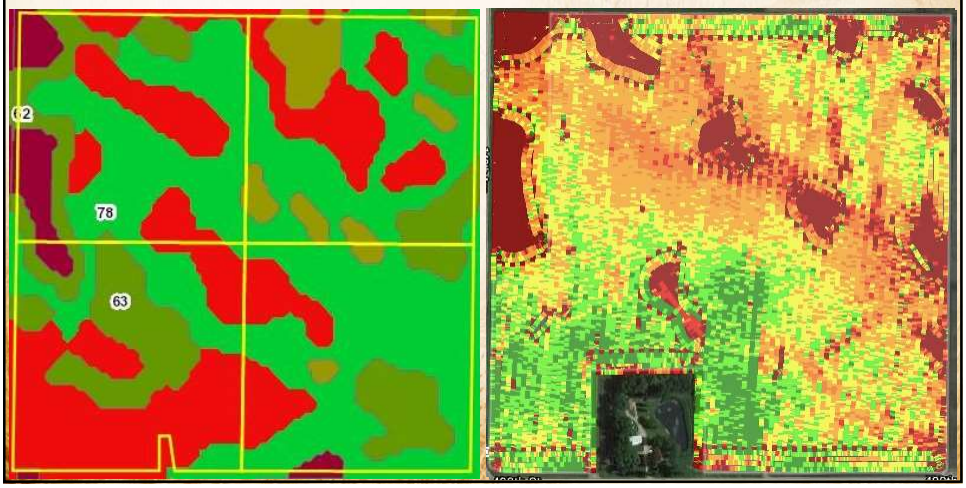
-Significant variability across fields



Where can I provide habitat on my farm?

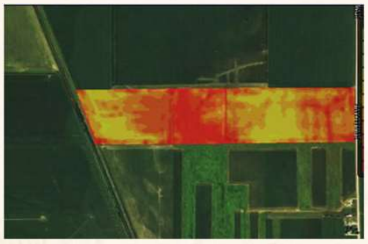
Marginal/unprofitable cropland

-Significant variability across fields



Where can I provide habitat on my farm?

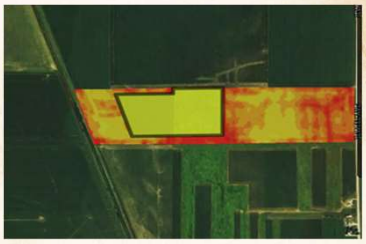
Utilizing Precision Agriculture in Iowa



Scenario: actual 2016 yield - 2016

Parameter	Value
Acreage	87.7 ac
Average Yield	160.1 bu/ac
Profit	-$222.86 /ac
ROI	-31.7 %

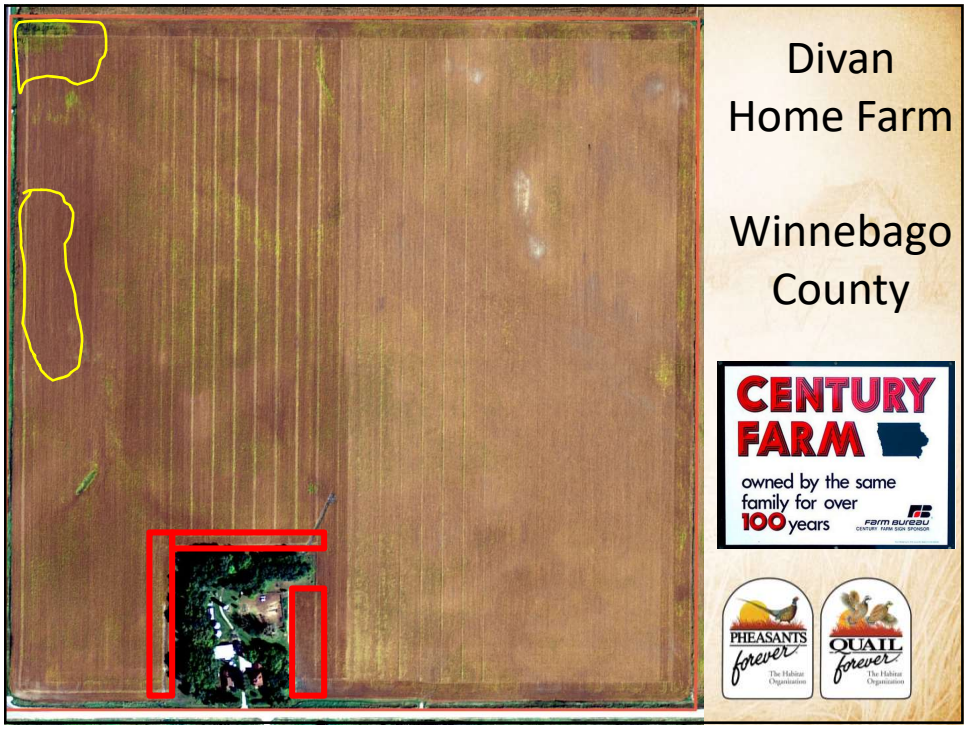
Harrison County, IA
Corn/Soybean rotation

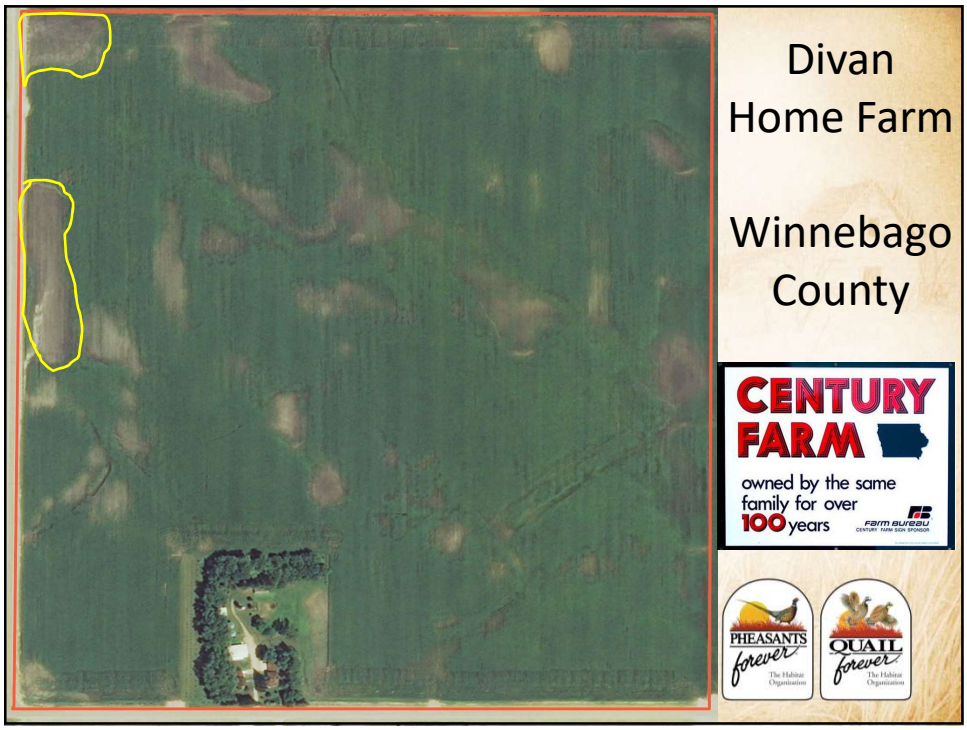


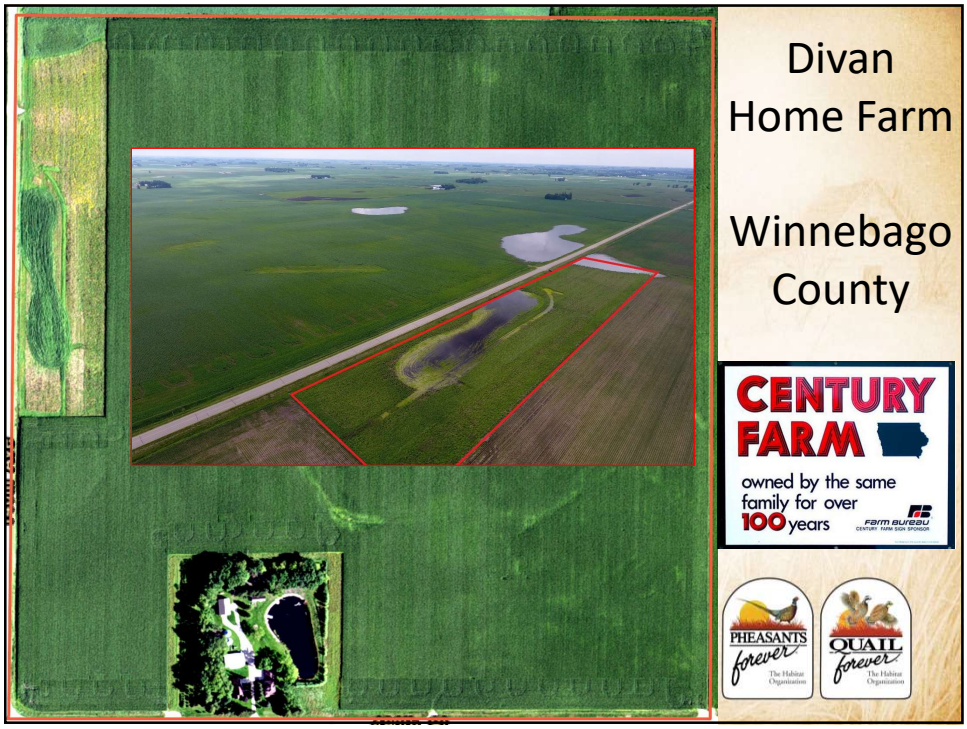
Scenario: CRP - 2016

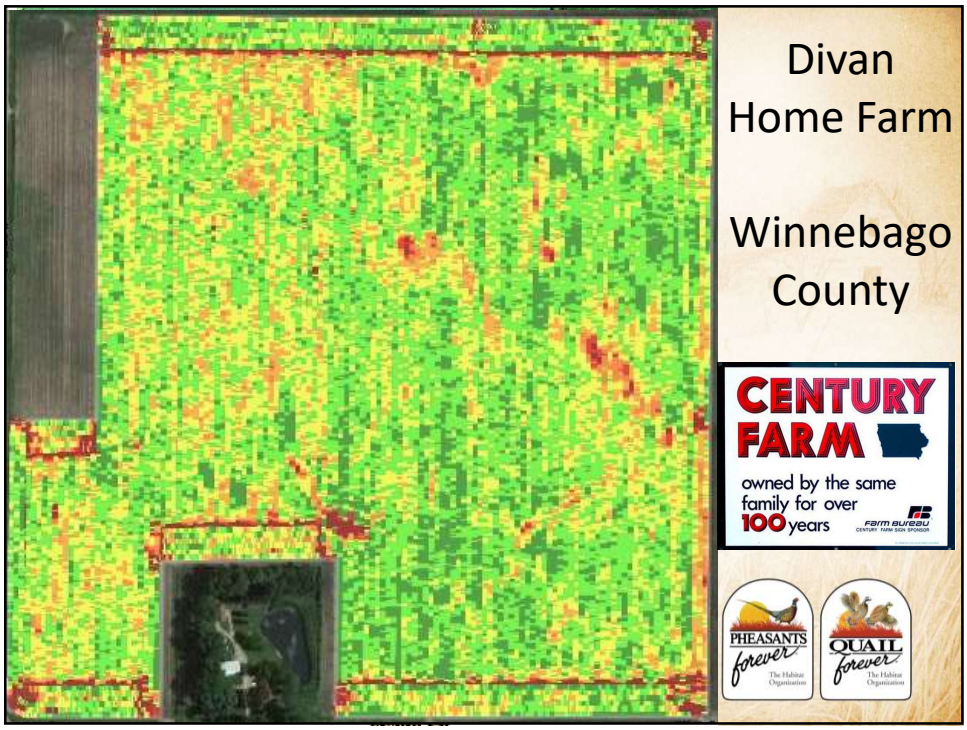
Parameter	Value
Acreage	87.7 ac
Average Yield	177.2 bu/ac
Profit	-$92.44 /ac
ROI	-16.1 %

Harrison County, IA
CRP-CP23


Divan
Home Farm
Winnebago
County
CENTURY
FARM
owned by the same
family for over
100 years
Farm Bureau
PHEASANTS
forever
QUAIL
forever


Divan
Home Farm
Winnebago
County
CENTURY
FARM
owned by the same
family for over
100 years
Farm Bureau
PHEASANTS
forever
QUAIL
forever


Divan
Home Farm
Winnebago
County
CENTURY
FARM
owned by the same
family for over
100 years
Farm Bureau
PHEASANTS
forever
QUAIL
forever


Divan
Home Farm
Winnebago
County
CENTURY
FARM
owned by the same
family for over
100 years
Farm Bureau
PHEASANTS
forever
QUAIL
forever

Iowa Farm Bureau's Margin Management Webinar Series presents:

Planning Habitat for Pollinators and Profitability

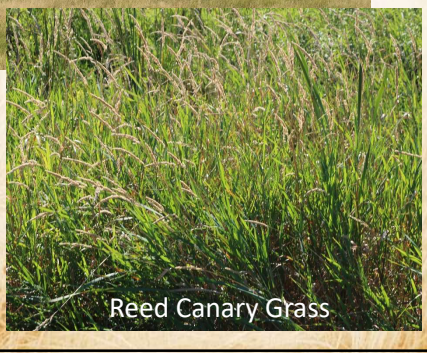
Time for a short recording break.

Speakers:
Josh Divan and Kelsey Fleming
Pheasants Forever

Now do you have an idea where to put your pollinator habitat?

Site Considerations

Current Vegetation



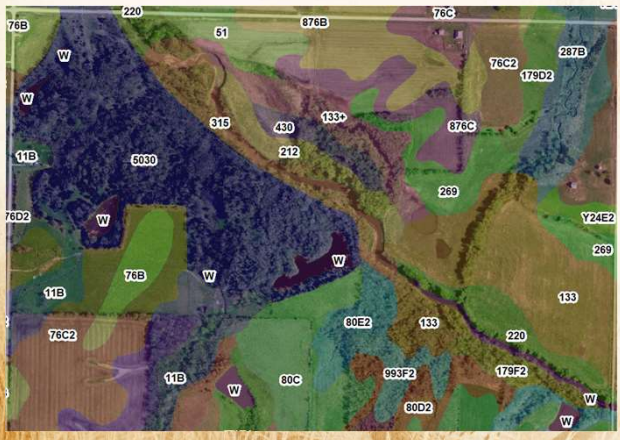
Site Considerations

Characteristics

- **Location of site**
- Soil type
- Hydrology
- Topography

Site Considerations

Characteristics



- Location of site
- **Soil type**
- Hydrology
- Topography

Site Considerations

Characteristics

- Location of site
- Soil type
- **Hydrology**
- Topography

Site Considerations

Characteristics

- Location of site
- Soil type
- Hydrology
- **Topography**

NOW you have the perfect spot for your habitat project!

Site Preparation

Determine Current Vegetation

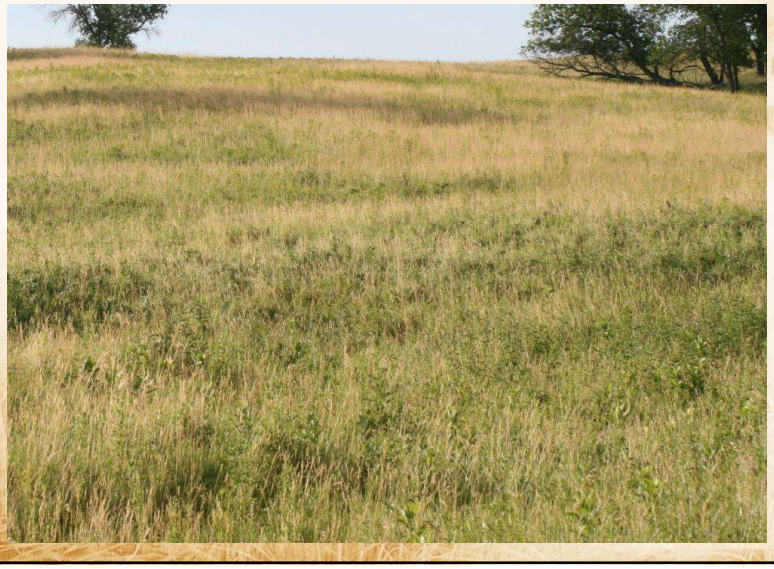
Site Preparation

Removal of Woody Vegetation

Remove brush by mechanical, prescribed burning, and/or chemical application prior to converting grasses.

Site Preparation

Cool Season Grasses Conversion



Site Preparation

Cool Season Grasses Conversion

Step #1: Remove residue in mid to late-summer (mid-August) by either mowing, haying or grazing to trigger fresh growth in late summer.

Site Preparation

Cool Season Grasses Conversion

Step #2: Fall application of glyphosate once regrowth is 6-8” tall, late September – October.

Site Preparation

Cool Season Grasses Conversion

Optional Step: Conduct a prescribed burn to remove litter and encourage new regrowth.

Site Preparation

Cool Season Grasses Conversion

Step #3: Spring application of glyphosate once regrowth is 6-8" tall, early – mid May.

Site Preparation

Native Warm Season Grasses Conversion

*Warm season grasses have different growth patterns than cool season grasses.

Site Preparation

Native Warm Season Grasses Conversion

Step #1: Remove existing material to trigger fresh growth in the summer, July-August, by mowing, haying or grazing.

Site Preparation

Native Warm Season Grasses Conversion

Step 2: Apply glyphosate once regrowth is 6-8" tall, August – early September.

Site Preparation

Warm Season Grasses Conversion

Optional Step: Conduct a prescribed burn to remove litter and encourage new regrowth.

Site Preparation

Native Warm Season Grasses Conversion

Step 3: Apply glyphosate once regrowth is 6-8" tall, late May – June.

***Herbicides only effective on actively growing plants.**

Site Preparation

Soybean Stubble

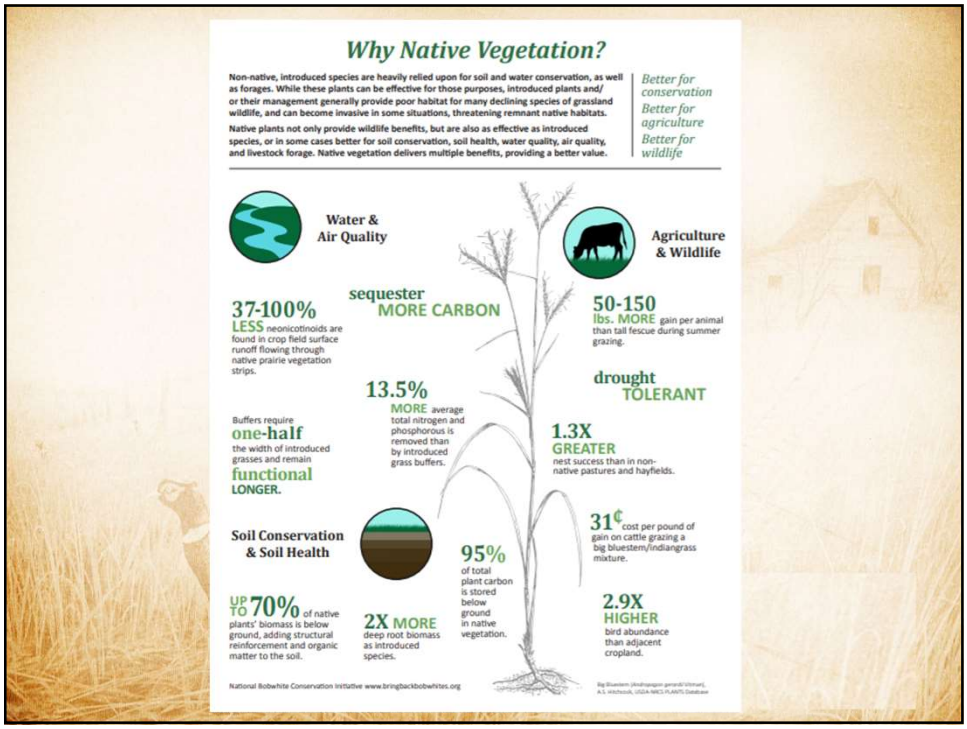
Fall planting: You are ready to go!

Spring planting: Consider a spring application of glyphosate for initial flush of weeds prior to seeding.

Site Preparation

Corn Stubble

Step 1: Remove corn stalks by chopping, raking, baling or prescribed burning.
Step 2: Consider a spring application of glyphosate for initial flush of weeds prior to seeding.

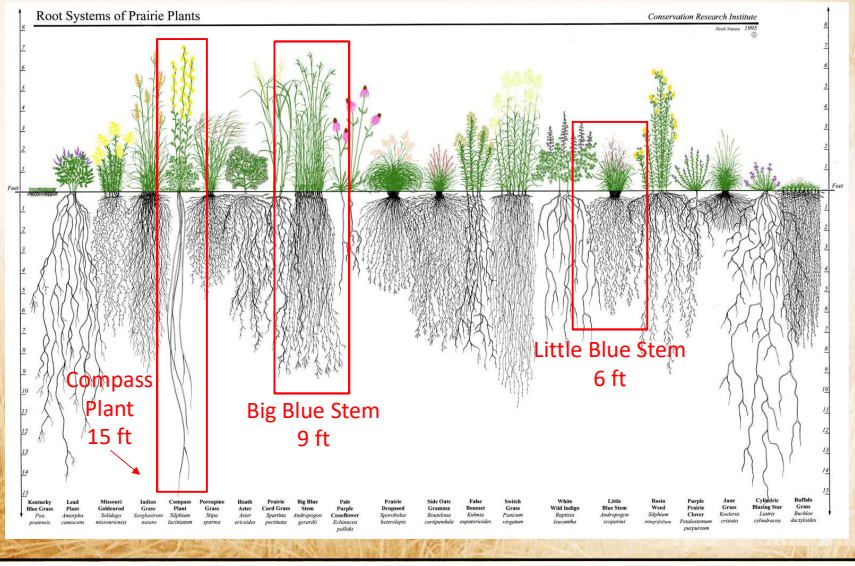


Seed Selection

Native vs. Introduced

Seed Selection

Native vs. Introduced



Seed Selection

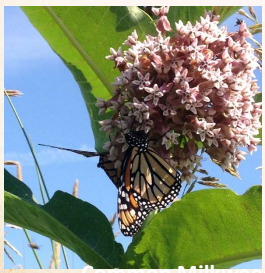
Diversity of Species

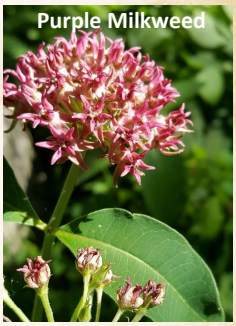
PHEASANTS forever The Habitat Organization

QUAIL forever The Habitat Organization

Seed Selection

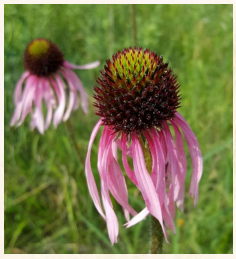
Milkweed Species

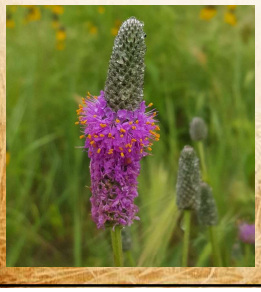


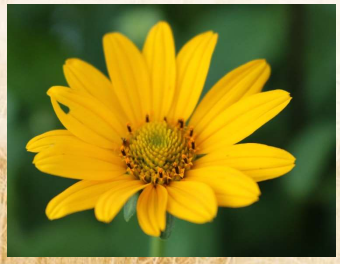


Seed Selection

Nectaring Flower Species







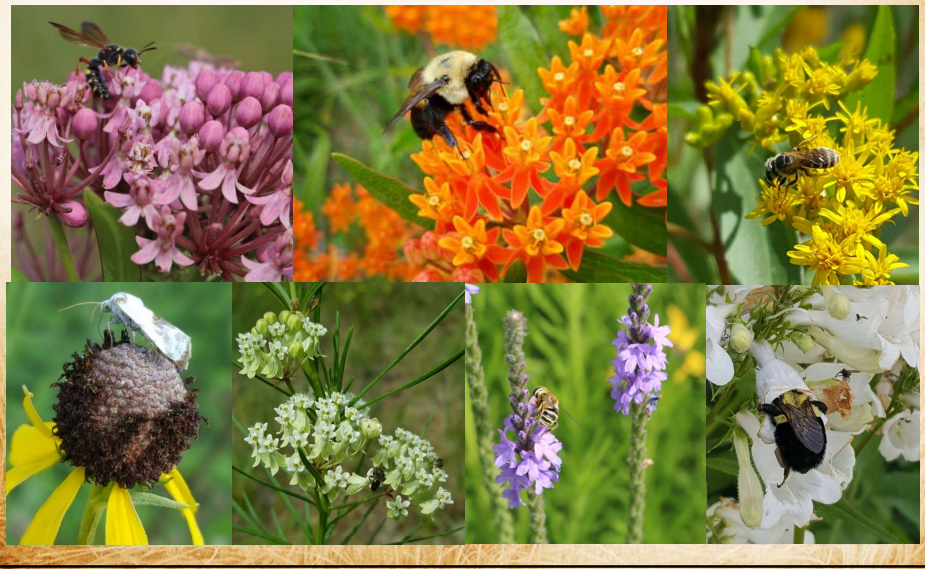
Seed Selection

Bloom Periods

Spring → Fall

Seed Selection

Color, Size, and Shape



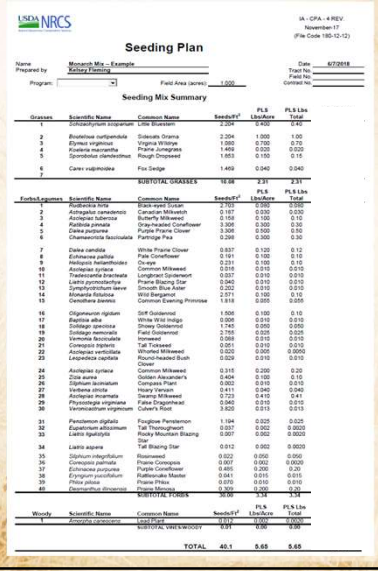
Seed Selection

Bare Ground

Seed Selection

Seeding Plan Example

- Adapted to site characteristics
- Local ecotype
- 40 seeds/square foot
  - 50% - 75% of flowers
    - Multiple milkweed species
    - 3+ flower per bloom period
    - No single flower species >10% of mix
    - 25+ forb species
  - 25% - not to exceed 50% of native grasses



USDA NRCS

Seeding Plan

Seeding Mix Summary

Iowa Farm Bureau's Margin Management Webinar Series presents:

Planning Habitat for Pollinators and Profitability

Time for a short recording break.

Speakers:
Josh Divan and Kelsey Fleming
Pheasants Forever

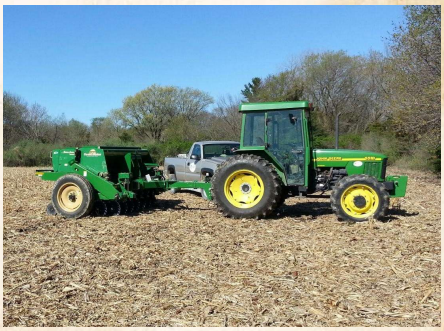
Native Habitat Planting

If you plant it, they will come!

Native Habitat Planting

Planting Methods

Broadcast & Cultipack



No-till Drill

Native Habitat Planting

Timing

Spring Planting (April 1 – July 1)

<u>Options:</u>

1. No-till drill
2. Broadcast & cultipack
   - good seed to soil contact

- Seed shall be drilled uniformly over the area no deeper that 1/8” or broadcast/rolled uniformly over the area
- If seeded later in the spring, spraying should occur to suppress existing weeds

Broadcast & Cultipack

No-till Drill

Native Habitat Planting

Timing

Dormant Planting (Nov. 15 – March 31)

Options:

1. No-till drill
2. Broadcast & cultipack*
   - good seed to soil contact

- Seed shall be drilled uniformly over the area no deeper that 1/8" or broadcast/rolled uniformly over the area
- Cannot be done until soil temperature drop below what is needed for seeds to germinate (4-inch soil temp. is less than 50°)

*Once frost is present in top 4 inches of soil, only broadcast & cultipack is an option.


Broadcast & Cultipack


No-till Drill

Post-planting Maintenance

**Critical step*

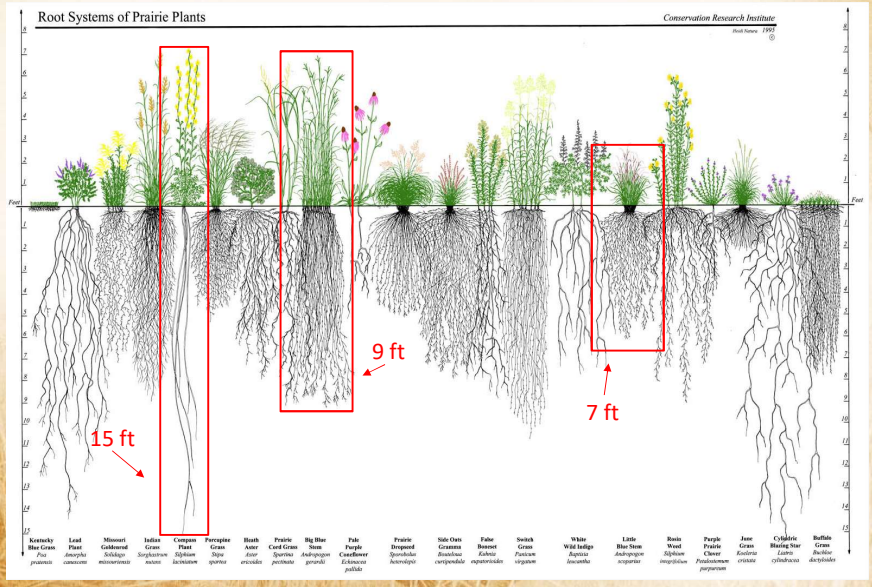
1st Year Mowing

– Mow 3-4 times

– Every time it gets knee-high, mow in half!

– No lower than 8"!

Sleep, Creep, LEAP!



Post-planting Maintenance

Light at the end of the tunnel!

2nd Year Mowing

– Mow 2-3 times

– Every time it gets knee-high, mow in half!

– No lower than 8”!

CONGRATULATIONS!!!

*REQUIRES MANAGEMENT TO CONTINUE LOOKING THIS GOOD

Long-term Maintenance

Keep your eye on the prize

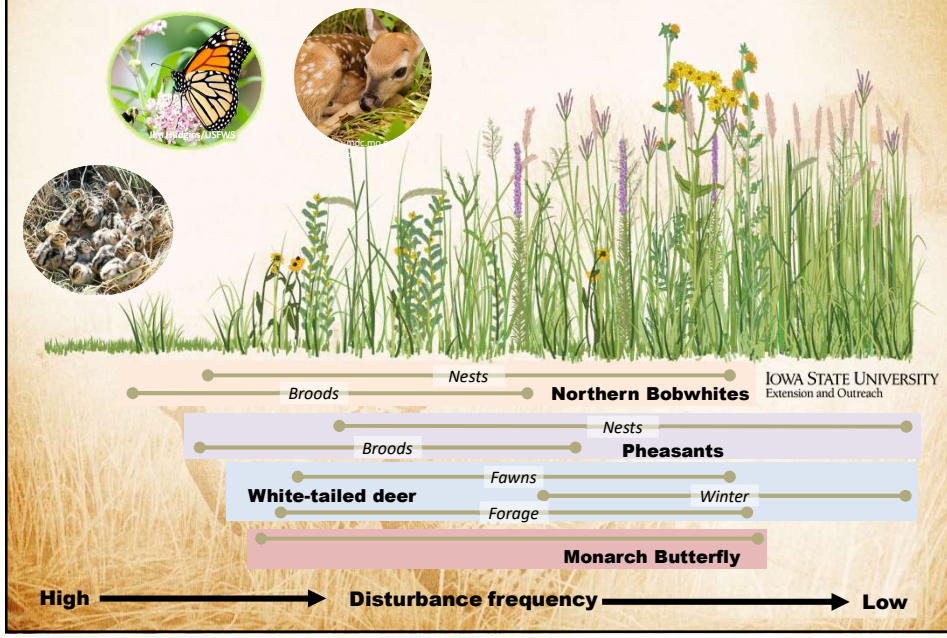
Scout site periodically & lookout for:

- Noxious weeds
  - e.g. Canada thistle
- Encroaching trees

If found, spot mow.

Spot spray only if necessary.

Diverse, native prairie requires disturbance



Long-term Management

General prairie maintenance recommendations are to burn every 3-7 years.

Evaluate the stand to identify objective of burn.

Timing of the burn is important for:

- controlling trees
- promoting grasses
- promoting forbs

10 year anniversary – No fire

10 year anniversary – With fire

Technical Assistance in Iowa

Monarch & Pollinator Habitat Tools

- Conservation Reserve Program (CRP)
- Environmental Quality Incentives Program (EQIP)
- Conservation Stewardship Program (CSP)
- Agricultural Conservation Easement Program – Wetland Reserve Easement (ACEP-WRE)
- Prairie Partners Program
- Partners for Fish and Wildlife Program
- Resource Enhancement and Protection Program (REAP)

Thank you to our partners!

USDA

Iowa Department of Agriculture and Land Stewardship

Iowa West Foundation

Soil & Water Conservation Districts

Iowa Monarch Conservation Consortium

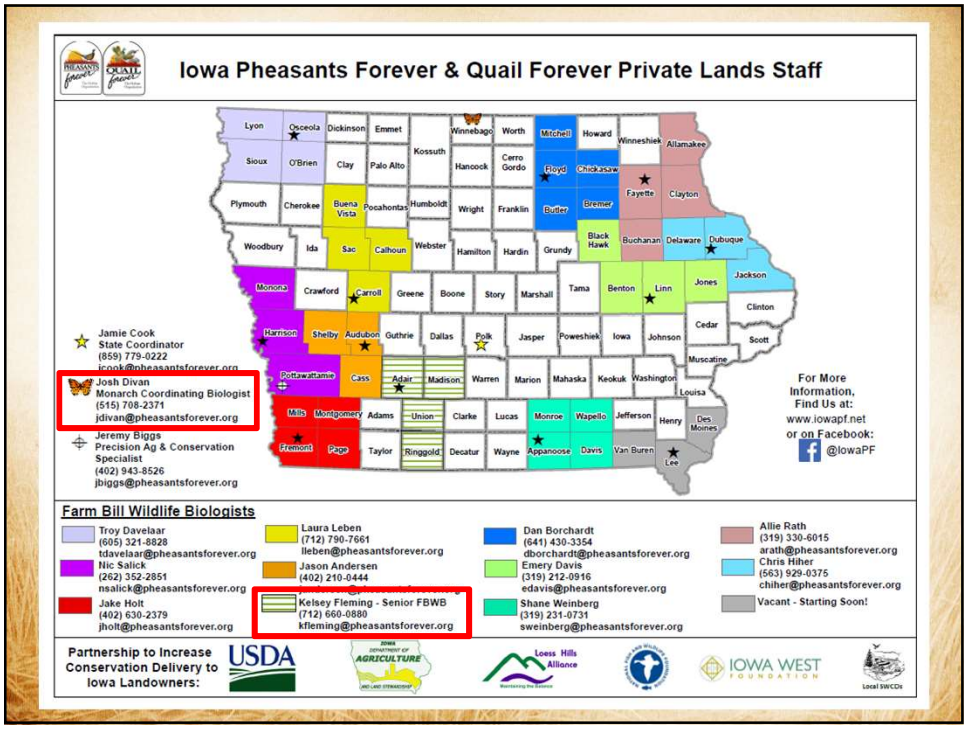
DNR

National Fish and Wildlife Foundation NFWF

Loess Hills Alliance – Maintaining the Balance

Iowa State University Extension and Outreach

Iowa Farm Bureau – People. Progress. Pride.



Iowa Farm Bureau's Margin Management Webinar Series:

Planning Habitat for Pollinators and Profitability

Thanks for your participation!

Please fill out a brief evaluation by clicking:

https://tinyurl.com/18Pollinate

Recordings of this webinar and materials will be available for Farm Bureau members at www.iowafarmbureau.com