

CP-43

A Pollinator Practice with A Lot of Benefits

Presented by:

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Illinois NRCS Liaison & Project Wingspan Illinois State Coordinator

Pollinator Partnership



**United States
Department of
Agriculture**

Natural Resources Conservation Service

**POLLINATOR
PARTNERSHIP**

What's happening to pollinators?



28%

of bumble bee species in decline

Rusty patched bumble bee (*Bombus affinis*) first bee species to be listed as endangered in continental U.S.



19%

of butterflies in the U.S. at risk of extinction

The iconic monarch butterfly has experienced 80-97% declines in overwintering populations both east and west of the Rockies



27

species of non-native lady beetle have been established in the U.S. since the mid-1980's, threatening native species

Once common across the U.S., the nine-spotted lady beetle is now locally extinct from many states where it was once plentiful.

50%

of leafcutter bees



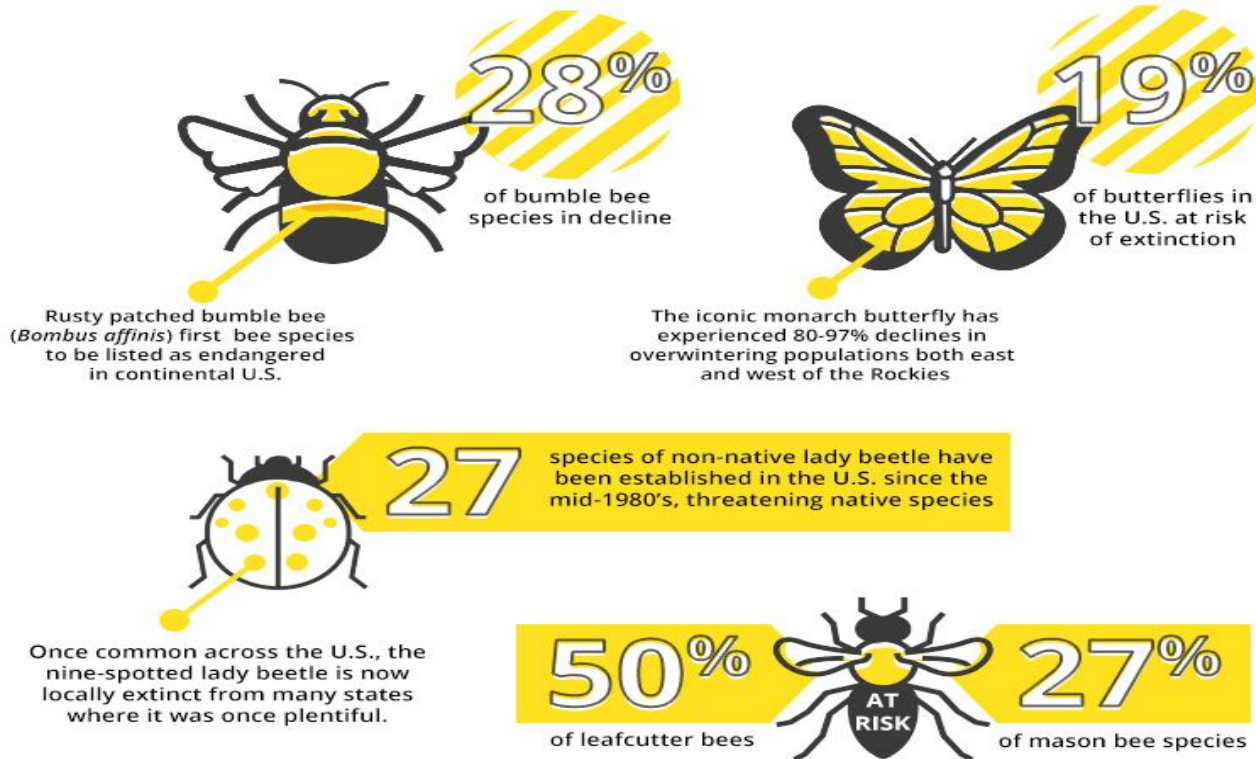
AT RISK

27%

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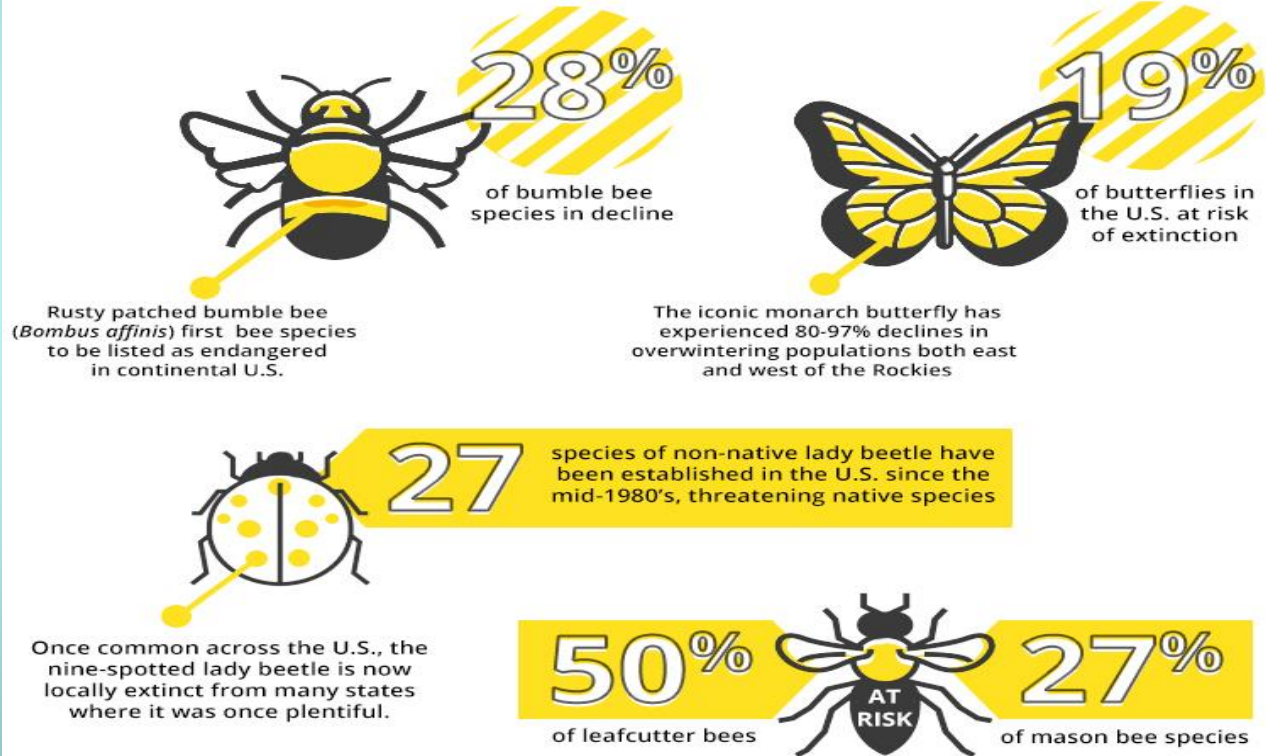
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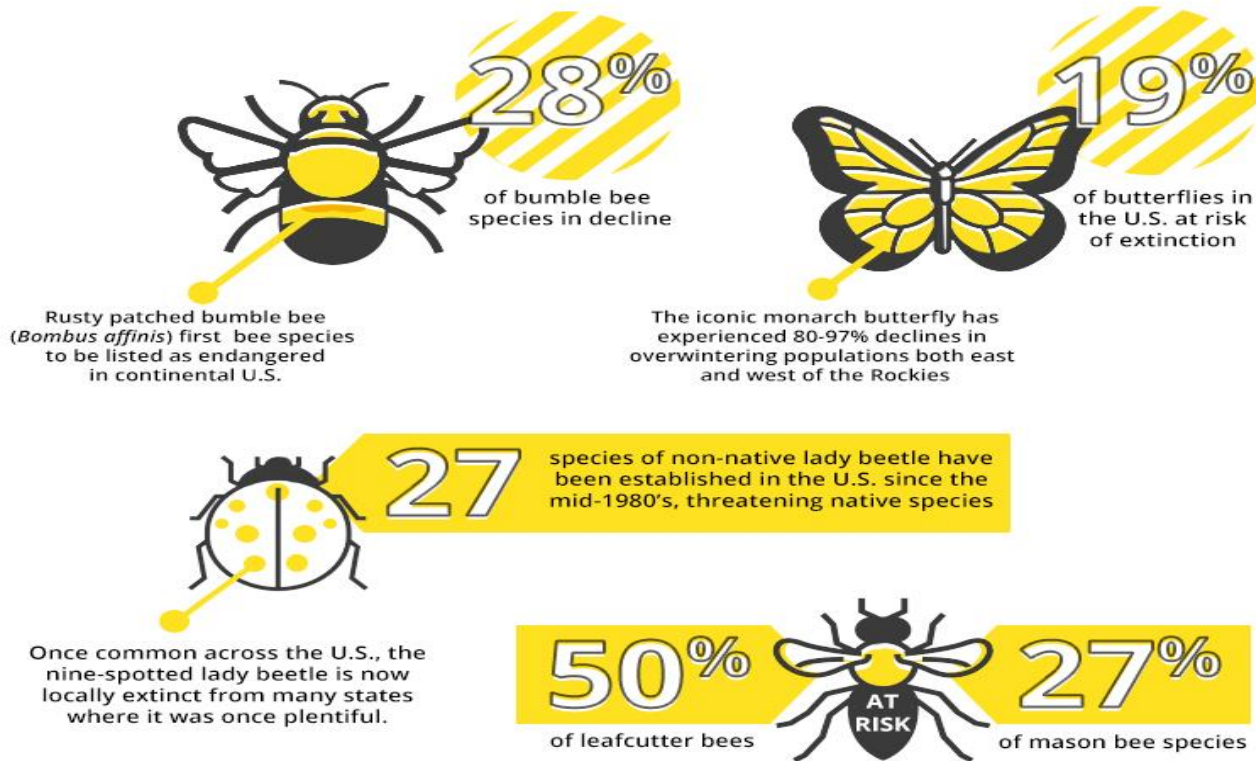
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Global Food Security ~Science



Photo: Whole Foods, Share The Buzz Campaign

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- 1 out of 3 bites of food we eat are because a pollinator visited a flower (McGregor 1976, Buchmann and Nabhan 1997)
- Declines in production are associated with pollinator decline (Klein et al. 2005)



Photo: Whole Foods, Share The Buzz Campaign

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Photo: Whole Foods, Share The Buzz Campaign

Your produce choices
with bees

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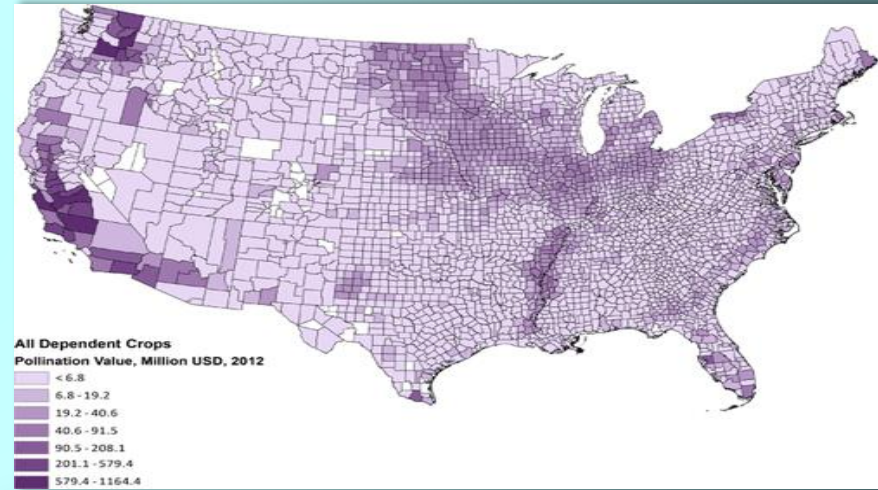


Photo: Whole Foods, Share The Buzz Campaign

Your produce choices
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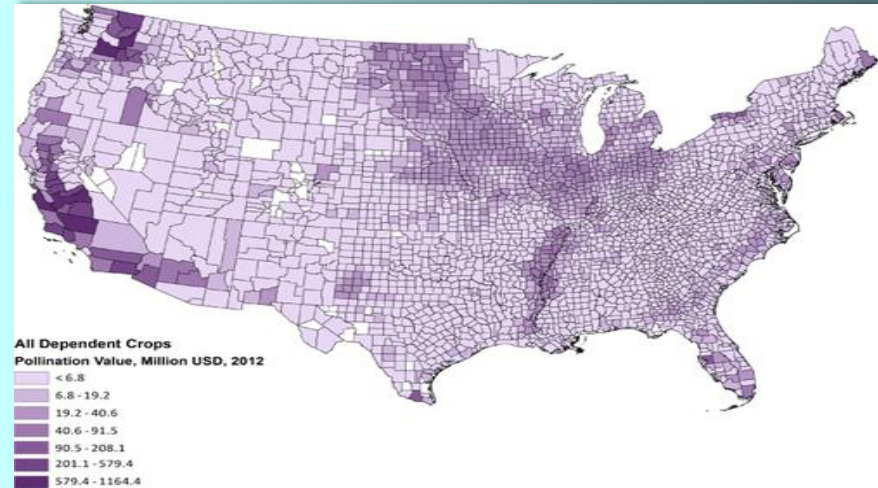
Economic Value of Pollination



Jordan et al. 2021

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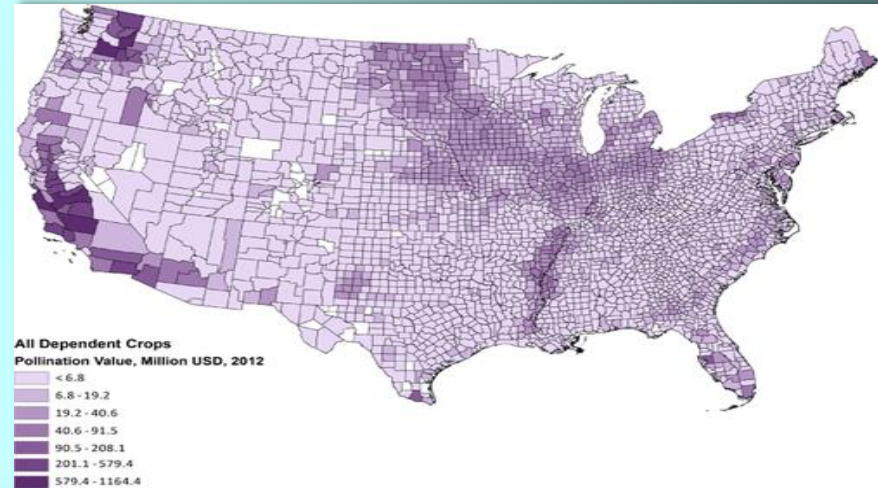
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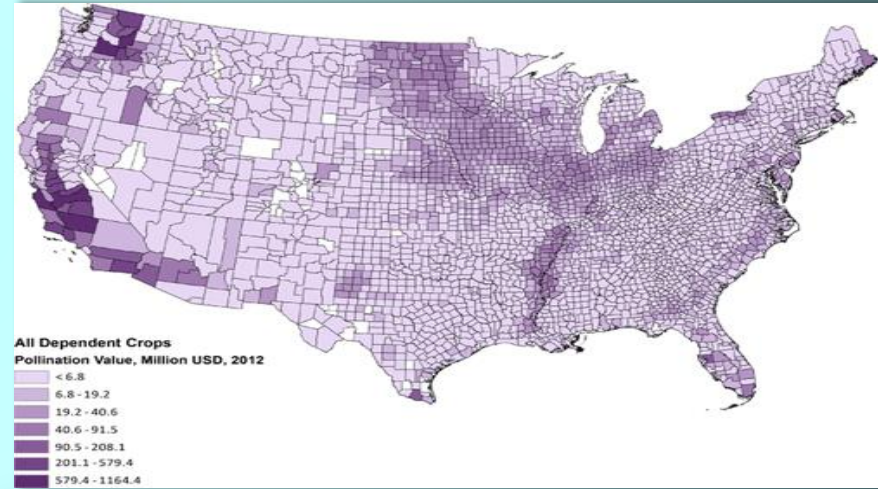
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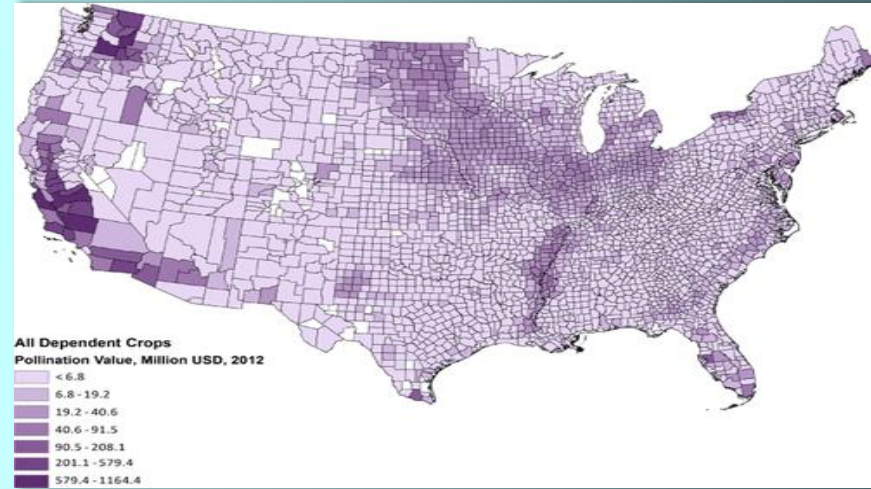


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- Most vulnerable:
 - 1st – counties producing fruit & nuts
 - 2nd – melons, vegetables
 - 3rd – oil seed (canola/soybean)

(Jordan et al. 2021)



Jordan et al. 2021

Does this *really* matter to YOU?



Rocha & Freitas

Does this *really* matter to YOU?

Illinois corn/beans rotation –
Does it need pollinators?



Rocha & Freitas

Bees CAN Increase Crop Yields



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- Pollination by Non-Apis Bees and Potential Benefits in Self-Pollinating Crops (Esquivel et al. 2021)
- Identification of Plant Species for Crop Pollinator Habitat Enhancement in the Northern Prairies (Robson 2014)



Rocha & Freitas

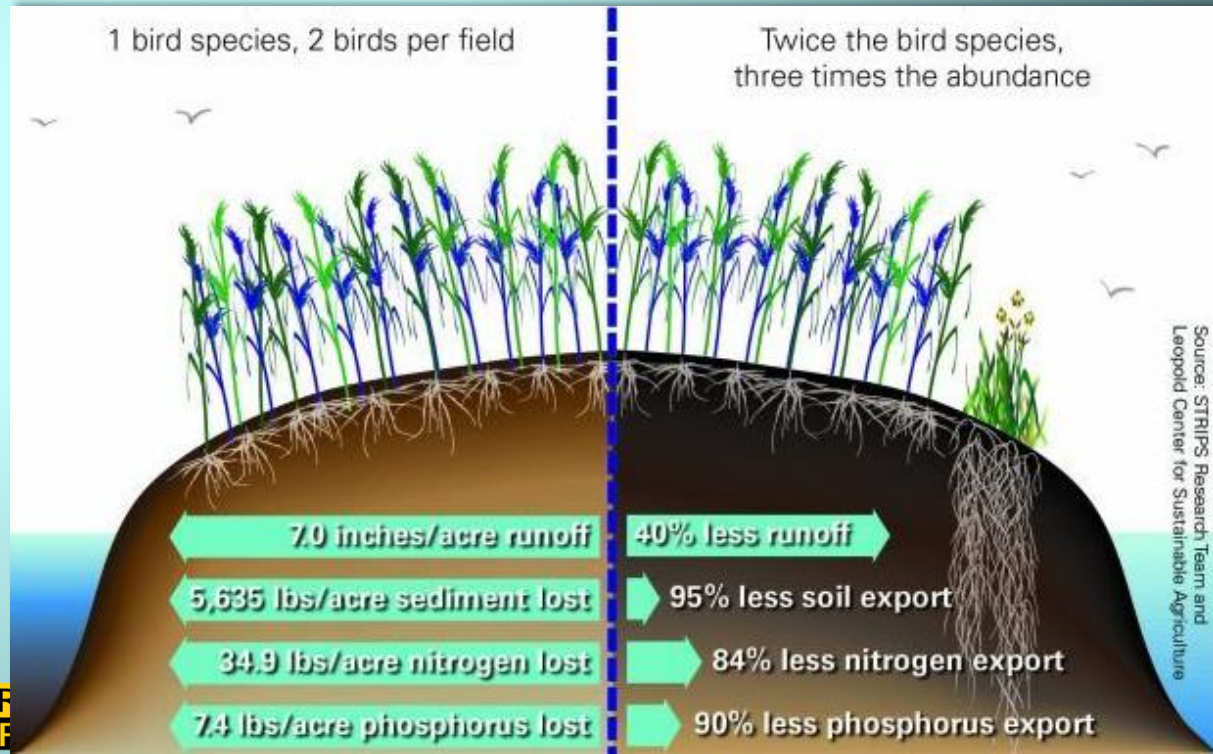
Prairie Strips Study, Iowa State University



Iowa State University

Prairie Strips Study, Iowa State University Grudens-Schuck, et al. (2017)

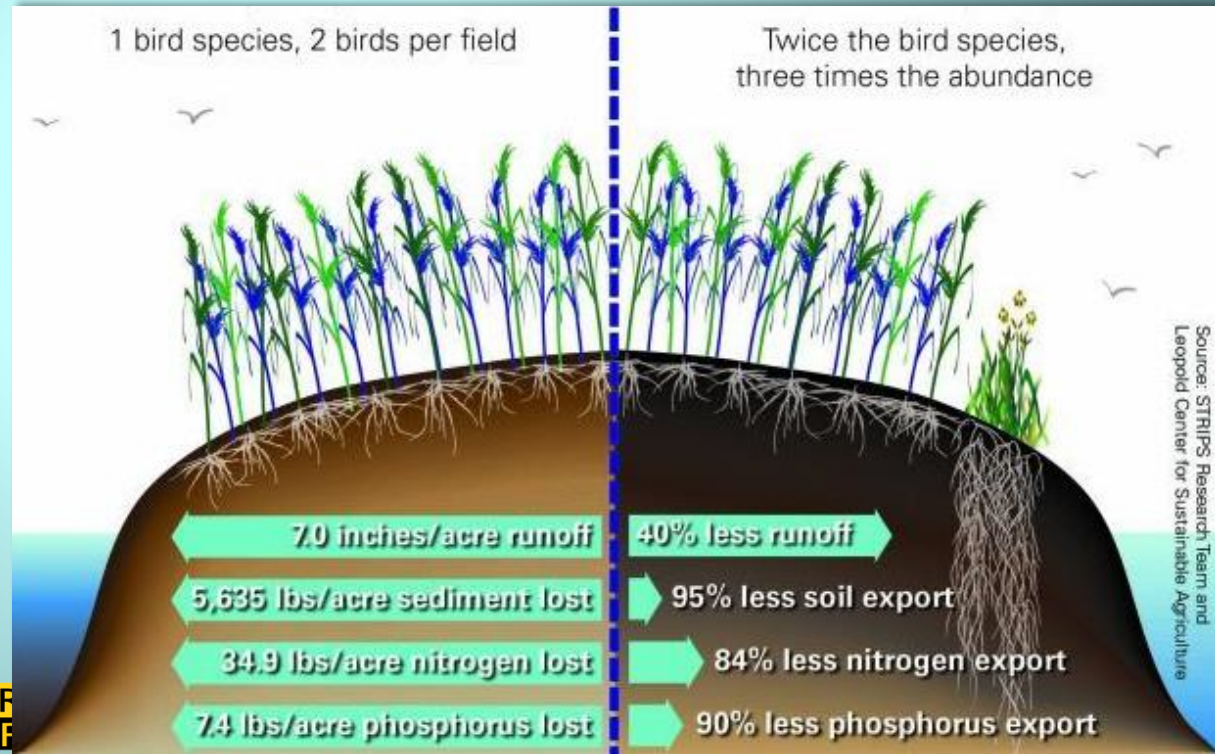
Prairie Strips Study Results



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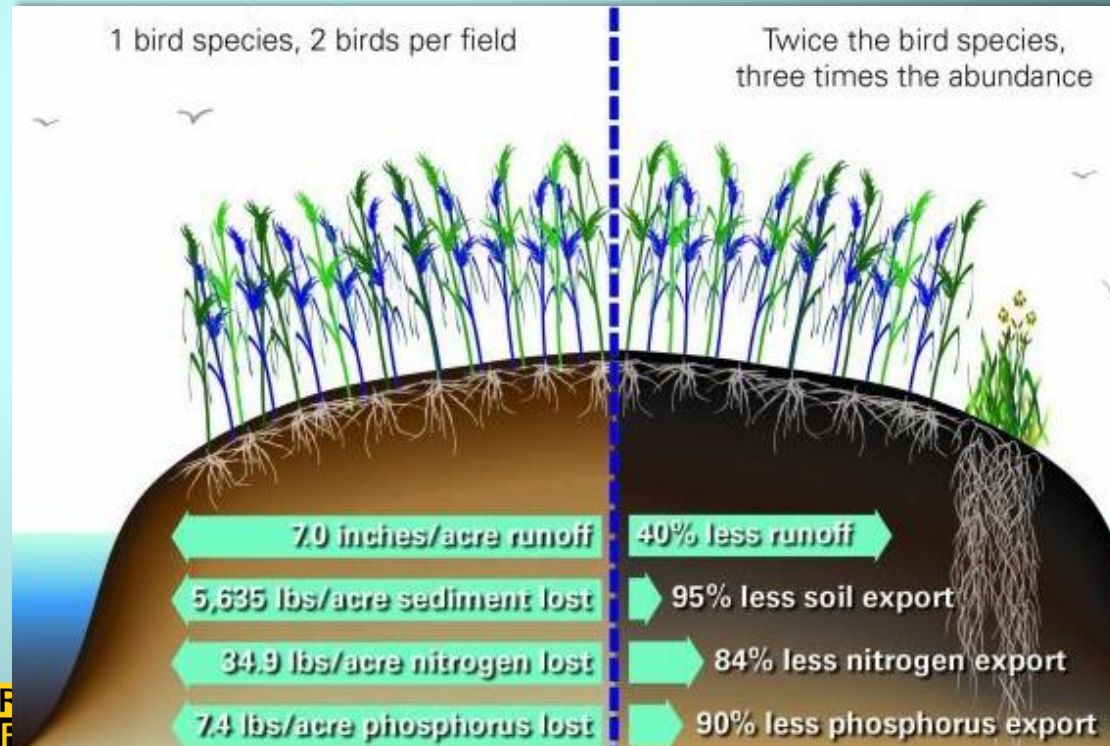
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Prairie Strips Study Results

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- 95% reduction in soil loss

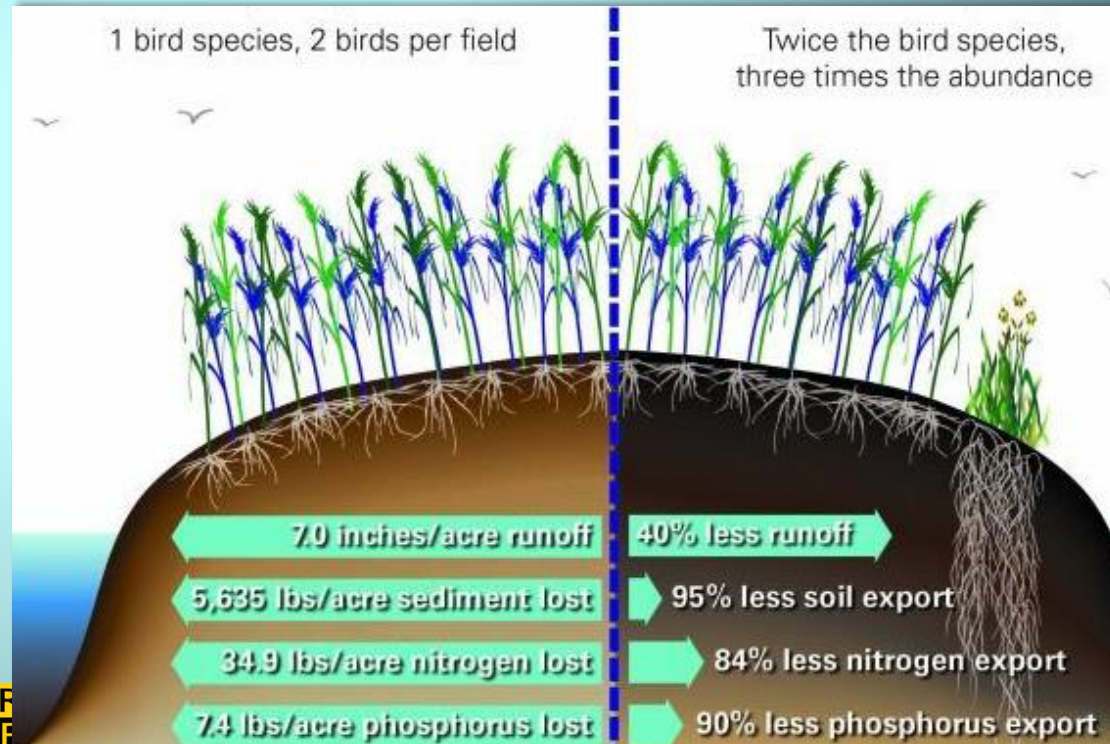


Source: STRIPs Research Team and Leopold Center for Sustainable Agriculture

Prairie Strips Study, Iowa State University Grudens-Schuck, et al. (2017)

Prairie Strips Study Results

- 44% reduction in water runoff
- 95% reduction in soil loss
- 90% reduction in phosphorus runoff

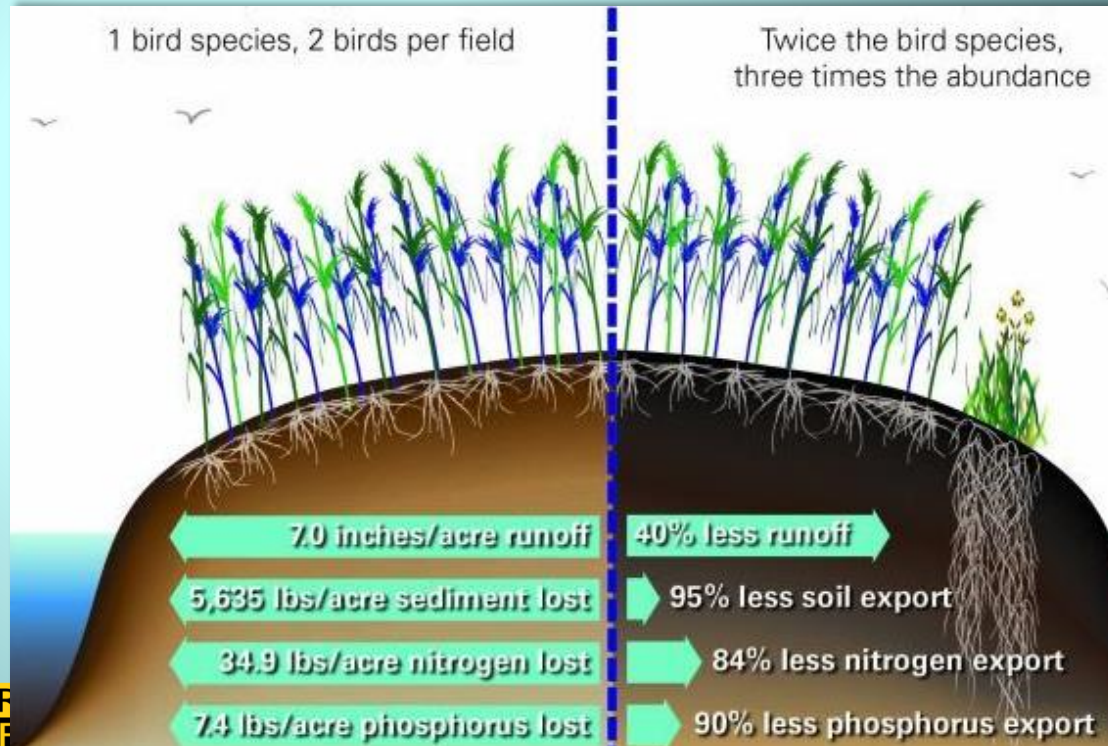


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- 84% reduction in nitrate-nitrogen runoff

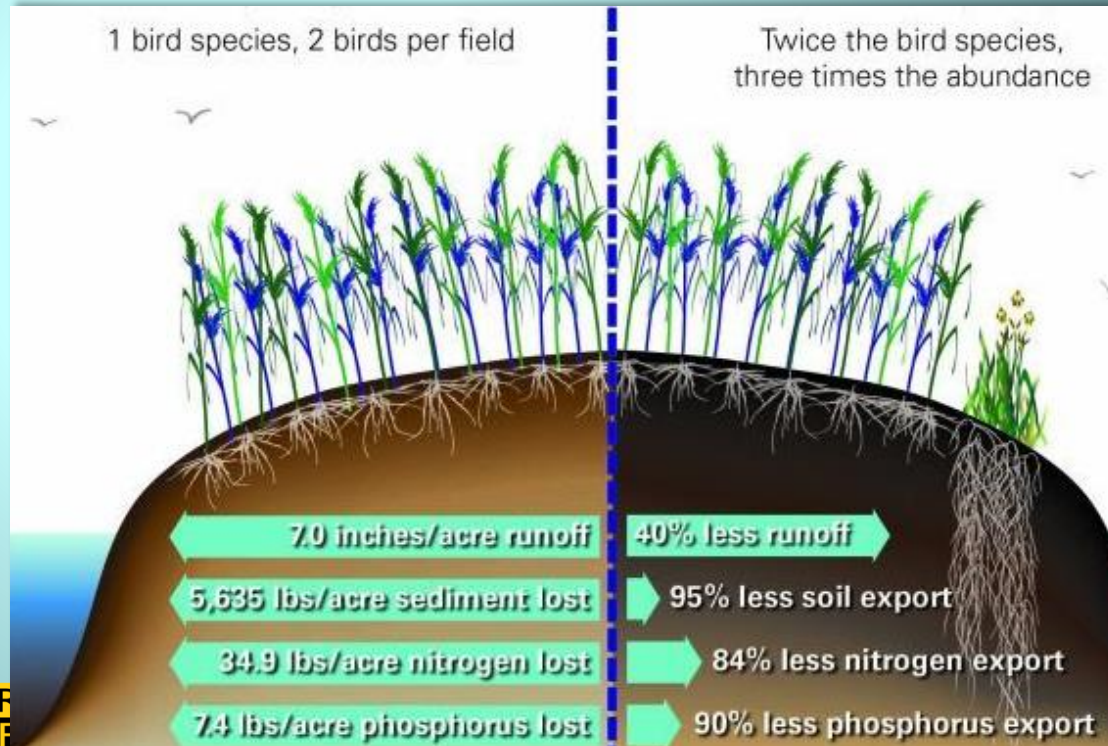


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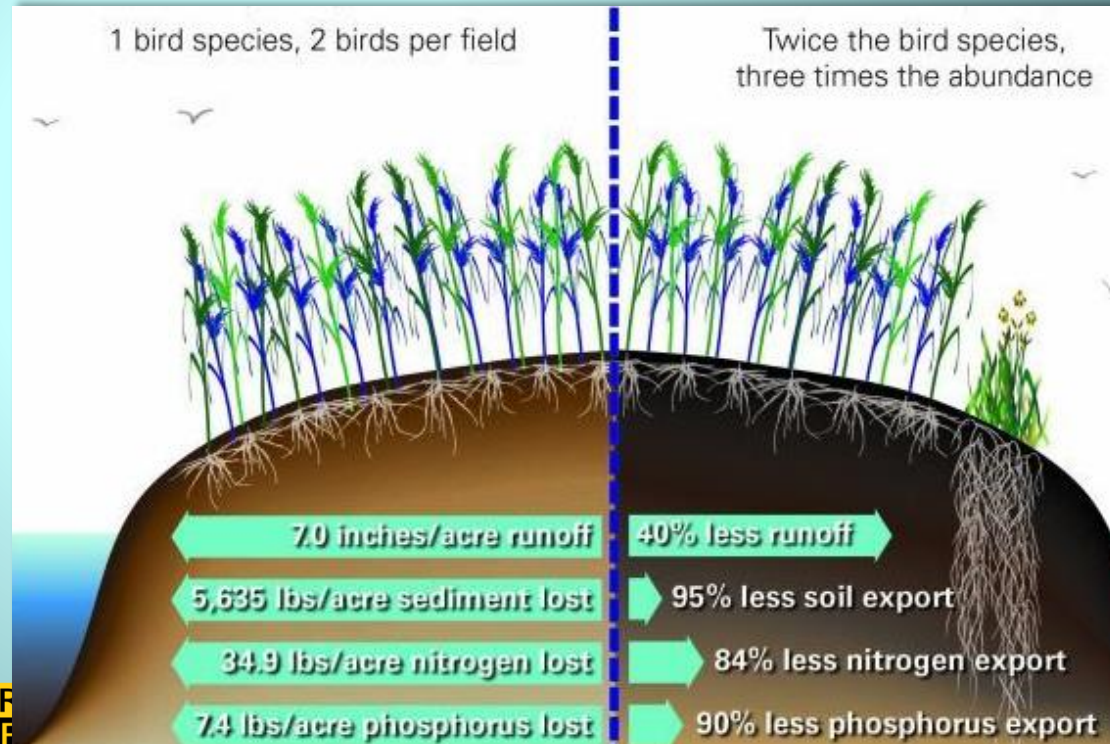
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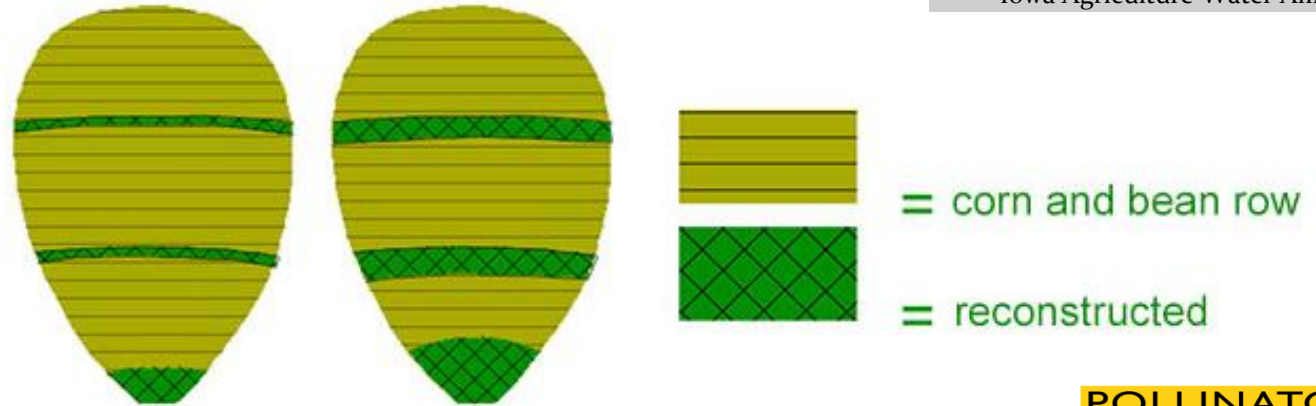
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- No difference in per acre corn and soybean yields
- Weed abundance did not increase



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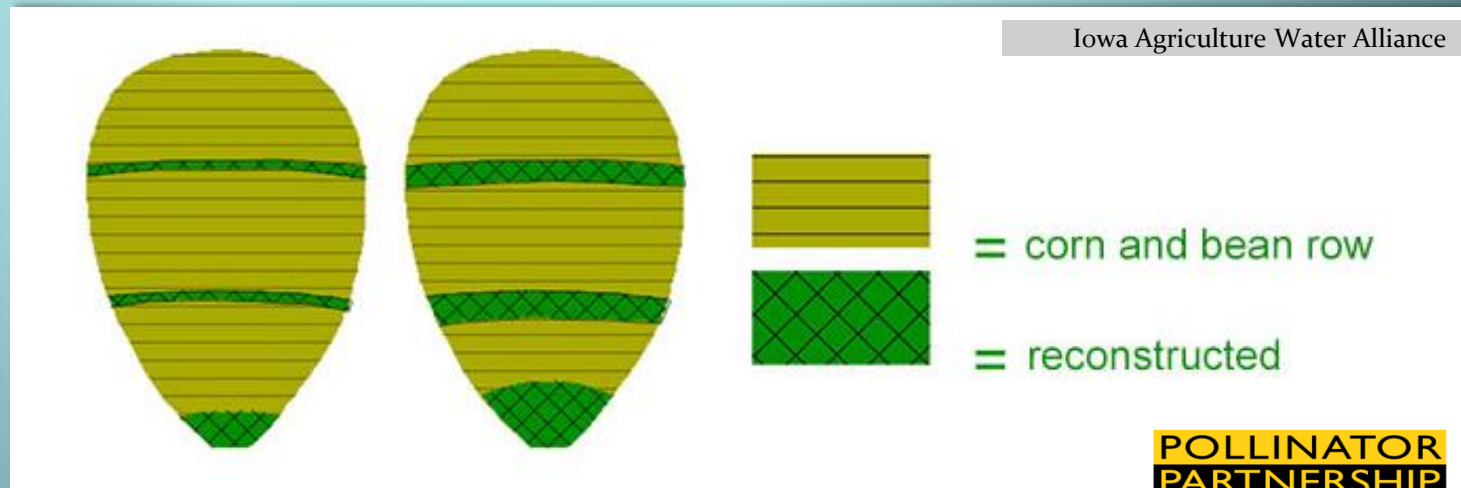
What's Involved? How to Get Started?

Iowa Agriculture Water Alliance



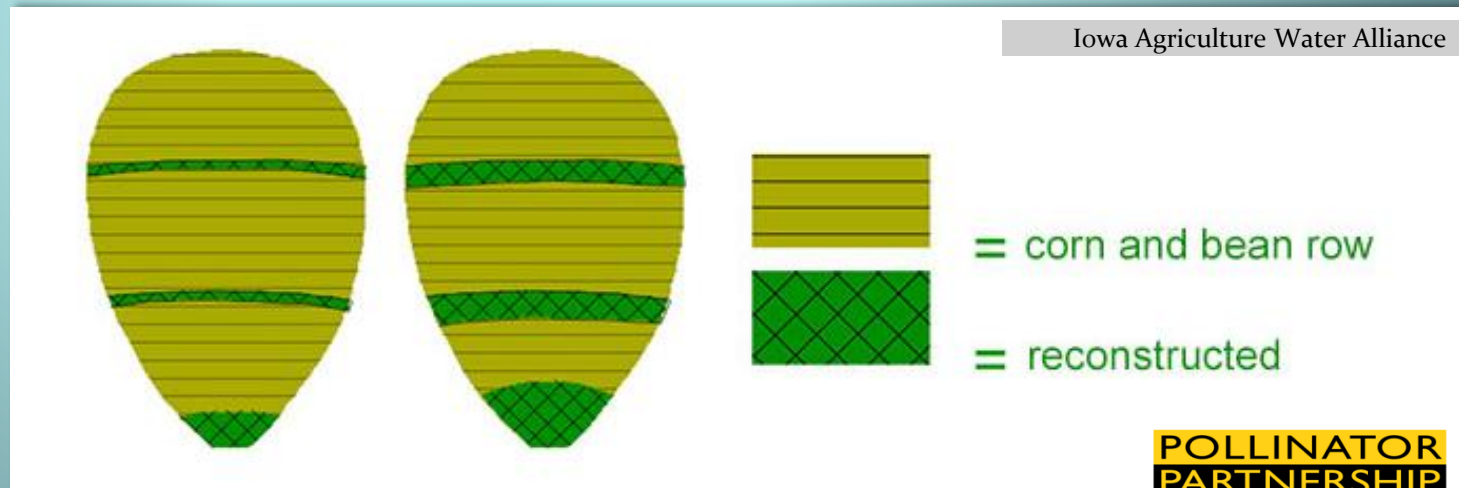
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- Conservation Plan from your USDA field office



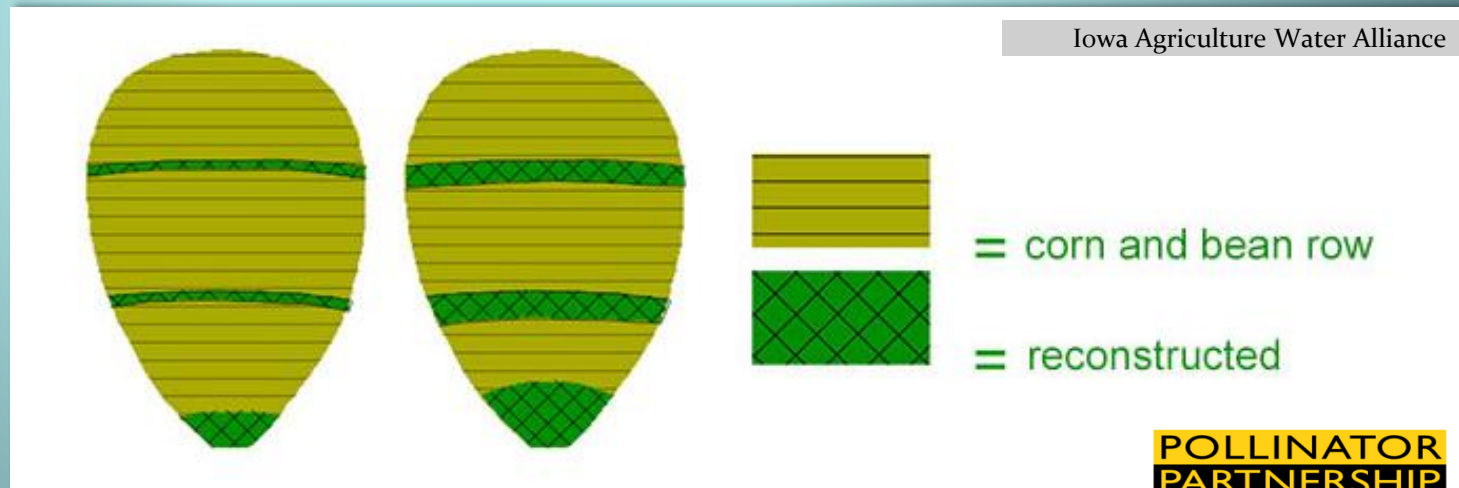
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- Conservation Plan from your USDA field office
 - Identify areas of soil vulnerability and lower productivity



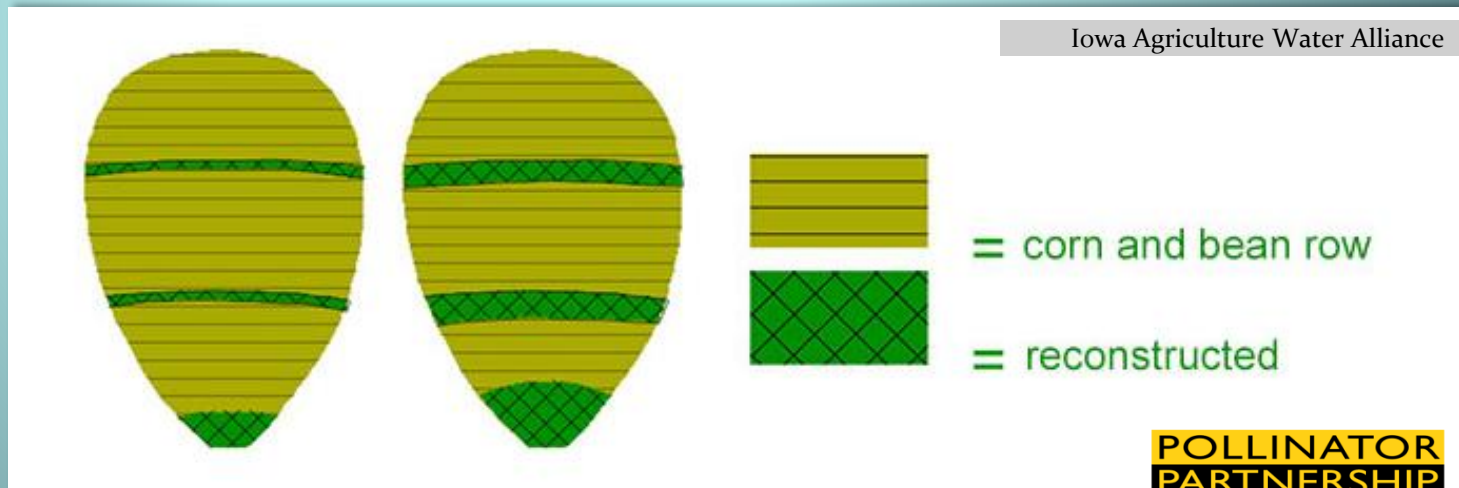
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 - Strategic prairie strip placement, not unlike terraces



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 - Identify areas of soil vulnerability and lower productivity
 - Strategic prairie strip placement, not unlike terraces
 - Usually 30 feet wide and perpendicular to water courses



USDA Standards and Specs



Iowa State University

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- Minimum of 10 native flowering plants.



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USDA Standards and Specs

- Minimum of 10 native flowering plants.
- At least two species will be blooming for each bloom period (early, mid, and late flowering seasons)



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Establishment and Management



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MOWING!!! The Key to Success!



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- Year One: Mow 4 to 6 inches, 3 to 4 times



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- Year Two: Mow 8 to 10 inches, 2 to 3 times



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Establishment and Management

MOWING!!! The Key to Success!

- Year One: Mow 4 to 6 inches, 3 to 4 times
- Year Two: Mow 8 to 10 inches, 2 to 3 times
- Year Three: Options
 - Spot-treat weeds/shrubs with herbicide
 - Controlled burn



Iowa State University

Prescribed Burn



Prescribed Burn

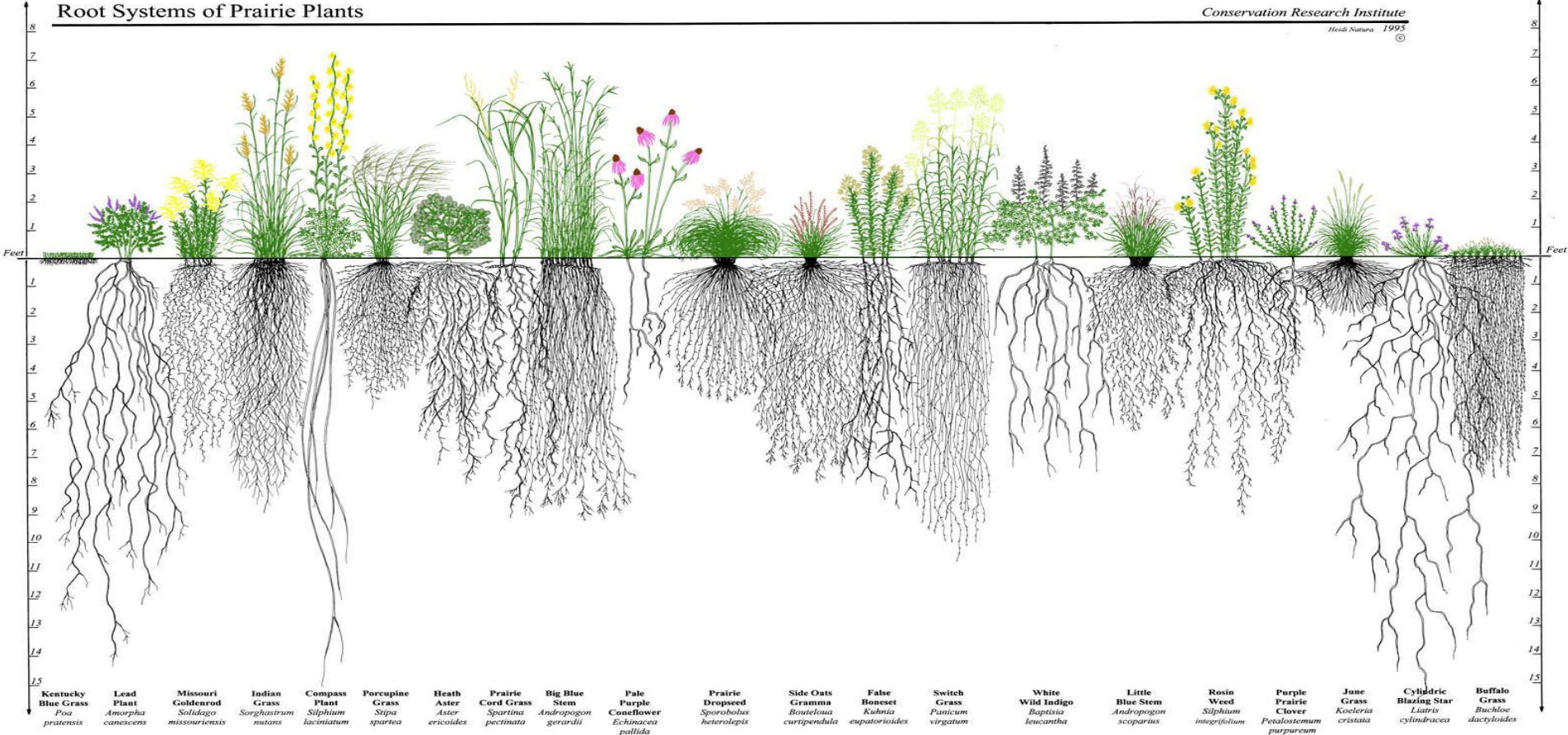




Root Systems of Prairie Plants

Conservation Research Institute

Heidi Natura 1995
©



Come Get Involved!

Pollinator Partnership Programs & Resources

Pollinator Partnership Technical Guides for landowners and manager



Free Downloadable Brochures



Bee Smart Phone App



Pesticide Applicators Training

Pollinator Partnership Ecoregion Guides



Look for these ways to engage!



Thank You!

