

Landowners: Prioritizing Conservation on Rented Ground

Practical Farmers of Iowa
Annual Conference
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Resilient Farms, Red Oak, IA
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2014 Farmland Ownership

	# in U.S.*	% in U.S.*	# in Iowa	% in Iowa
Farmland Acres	911 Million	100%	30.6 Million	100%
NOL Owned Acres	283.4 Million	31%	12.6 Million	41%
# of NOLs	1.9 Million	87%	84,741	81%
# of Principal NOLs	1.4 Million	67%	65,398	62%
Rent \$'s Paid to NOLs			\$2.8 Billion	75%

*Lower 48 states

Farm Non-Operator Landowners (NOLs) Profile

NOL Principal Landowners in Iowa are:

- ▶ Seniors: Average age = 68.5 years
- ▶ Senior Principal NOLs own 70% of land rented
- ▶ College educated
- ▶ Male = 58%; Female = 42%
- ▶ Farm Experience: Never farmed = 40%; retired from farming = 45%; not retired from farming = 15%

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- ▶ Resilient Farms: A Brief History
 - ▶ Farm Goals
 - ▶ Conservation Priorities
 - ▶ Incorporating Conservation into Farm Lease
 - ▶ Progress Made to Date
 - ▶ Future Conservation Plans

Year	Resilient Farms: A Brief History
1899	JE/Retta Taylor purchased farm; named it “Pleasant Prospect”.
1920s	JE Taylor built swale terraces; planted evergreen windbreaks.
1945	Grandson Earl McQuown acquired farm; used multi-year crop rotations (corn, small grains, cattle pastures); added erosion-control ponds.
1980s	Began contour and no-till conservation practices; added 2 terraces/tile and grass waterway.
1990s	Bryan/Lisa Huff became operators; added CRP8A grass waterway.
2004	Signed 10-year Conservation Stewardship Program (CSP) contract.

ces/Tile

ated irie

Woods

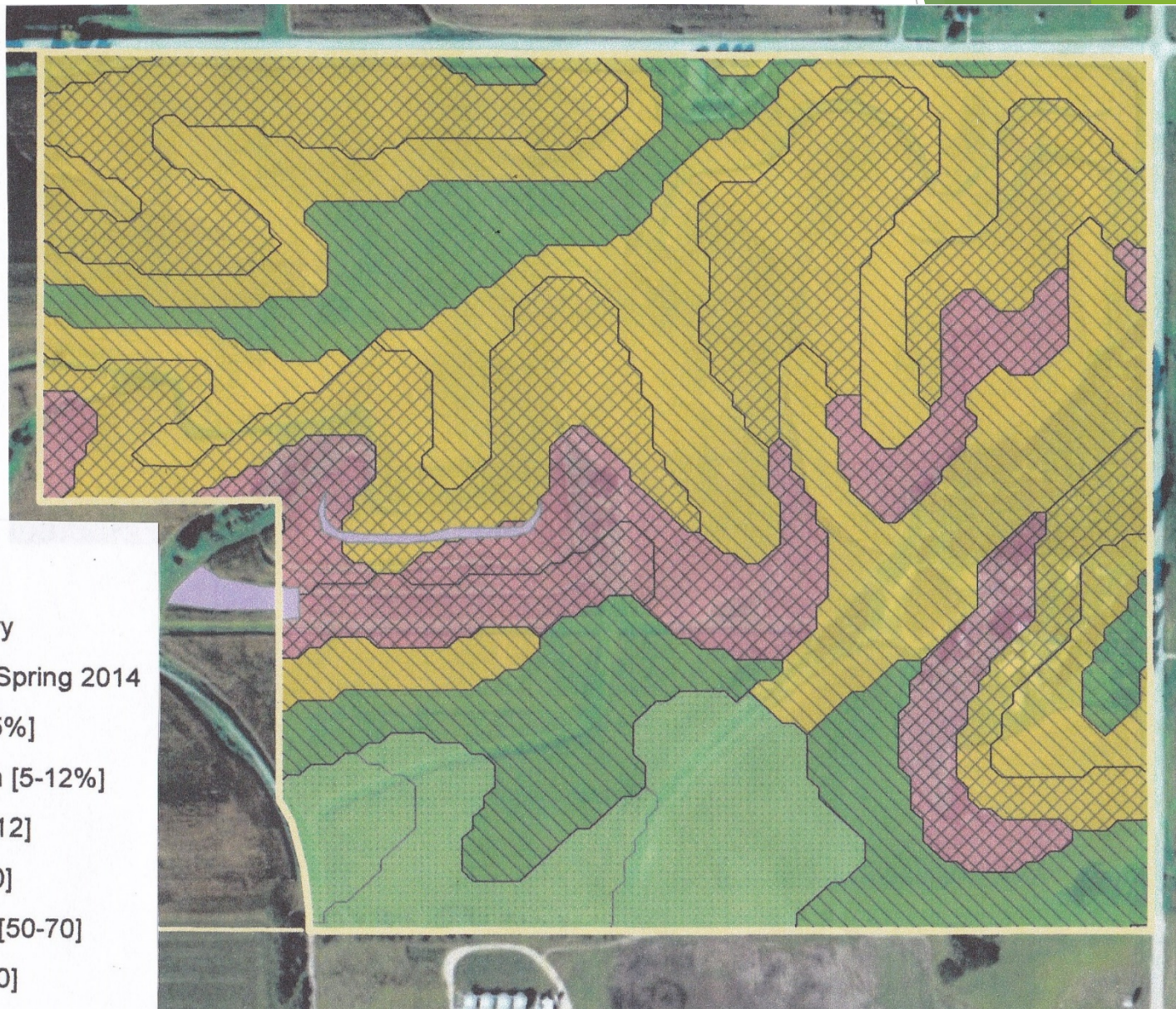
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Resilient Farms: CSR/Slope Map

Legend

- Field Boundary
- Prairie Strips Spring 2014
- Slope Low [$<5\%$]
- Slope Medium [$5-12\%$]
- Slope High [$>12\%$]
- CSR Low [<50]
- CSR Medium [$50-70$]
- CSR High [>70]



Erosion Issues 2013 - 2014

May 29, 2013



May 28, 2014
West Field Hillside

Creek
Bank



Farm Goals

- ▶ Be a good steward of my land, my watershed and my community
- ▶ Diversify farm practices from two crop corn/soybean rotation
- ▶ Maintain row crop acres & income production
- ▶ Re-imagine building site → fit current/future needs, eco-friendly and honor farm heritage
- ▶ Create a transition plan → sustainability, role model for best practices

Conservation Goals/Priorities

- ▶ Minimize erosion
- ▶ Minimize nutrient loss; reduce PKN runoff into watershed
- ▶ Regenerate/build soil health and permeability
- ▶ Diversify and improve beneficial use of all non-row crop acres
- ▶ Provide robust, dispersed wildlife habitat

Farm Lease and Conservation

- ▶ Farm began as owner-operator placing high value on conservation
- ▶ 1997-2007 lease: Crop Share with some conservation
 - ▶ Contour farming, no-till and CSP
- ▶ 2008-2009 Leases: Cash Rent (Mom in assisted living)
- ▶ 2010-2012 Leases: Flex-rent (2 versions.3 years)
- ▶ 2013-Present Leases: Blend of Crop Share & Flex-rent (2 versions, 7 years)
 - ▶ Multi-year
 - ▶ Shares risk/reward

Landowner/Farm Operator Relations

- ▶ Guiding Principles for Success - Both Parties
 - ▶ Shared values/goals
 - ▶ Long-term view
 - ▶ Share the risk & reward
 - ▶ Open, candid and regular communication
 - ▶ Mutual respect
 - ▶ Advanced planning
 - ▶ Flexibility/willingness to adapt, test & improve
 - ▶ Clearly defined & written roles/responsibilities
 - ▶ Partnership of co-equals/complementary contributions

Landowner/Farm Operator Relations

► Guiding Principles for Success - NOLs

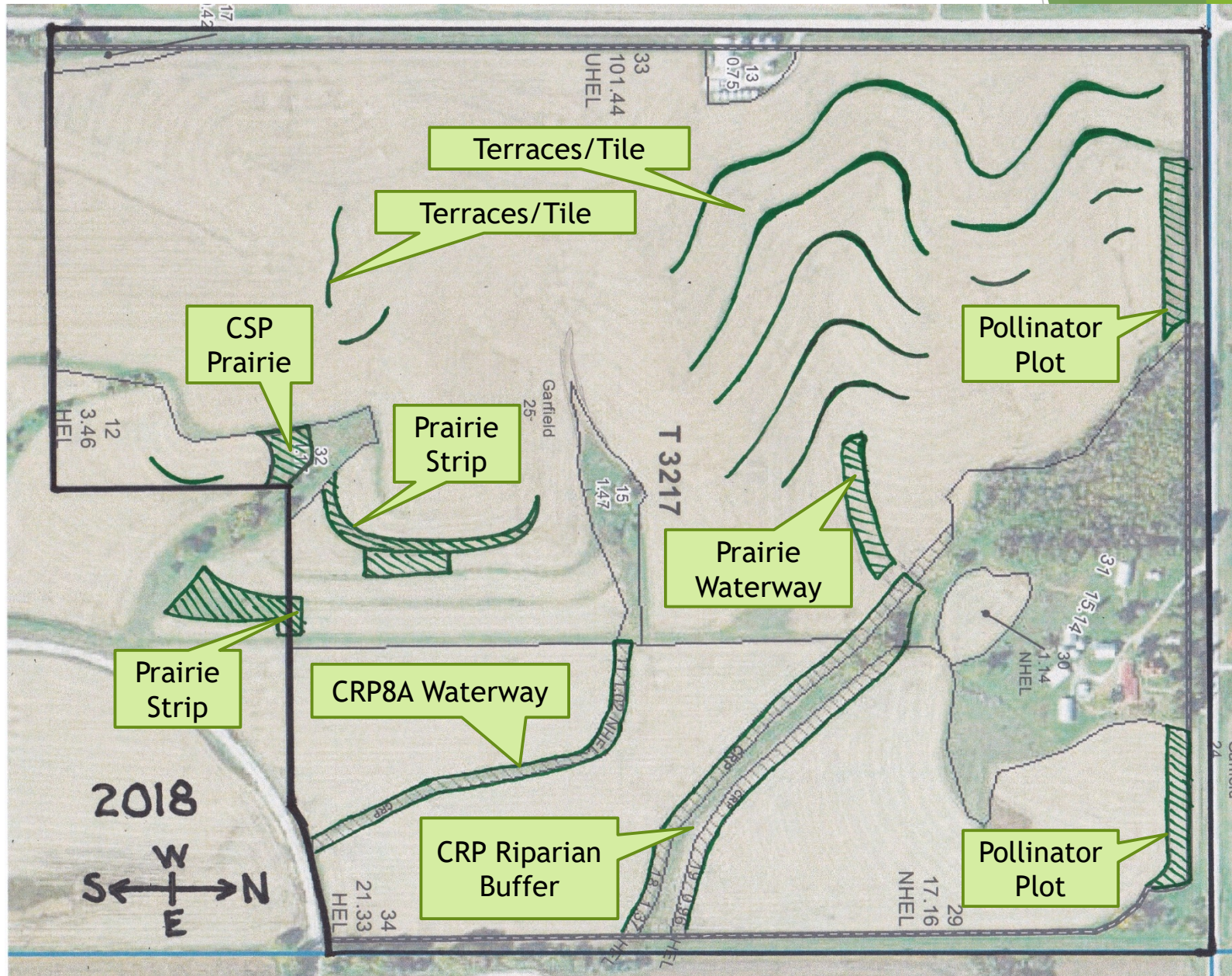
- Be interested: Interact with Operator regularly
- Be knowledgeable: Read Ag publications, join Ag organizations, attend seminars/conferences
- Be present (at least 2 times/year): Walk the land, note problems/opportunities, flag areas
- Be reasonable: Invest in improvements, respect current operation type/equipment compatibility

► Guiding Principles for Success - Operators

- Be upfront: Let NOL know what is/isn't working, discuss challenges/problems earlier than later
- Be positive steward of land: Don't just plant & harvest

Year	Resilient Farms: Progress Made to Date
2011/ 2012	Great-granddaughter Maggie McQuown inherited farm; renamed it “Resilient Farms”; installed solar array.
2013	Signed 2.4 acre riparian buffer CRP contract; added 2 terraces/tile; created produce garden; 1st cover crop test - 23 ac.
2014	Joined ISU STRIPS program; seeded 2 prairie strips; prepped riparian buffer.
2015	Planted riparian buffer in May (native trees, shrubs prairie mix); 2nd cover crop test - 31 ac.
2016	Seeded 2 pollinator plots & cover crop on west ridge; added 2 terraces/tile, 5 mini-dams/tile & grass waterway; burned prairie strips; 3rd cover crop test - 34 ac.
2017	Overseeded strip edges & pollinator plots; aerial seeded cover crop - 130 acres.
2018	Added 1 terrace & prairie waterway; seeded 1 prairie plot; prepped 3 future prairie strips; aerial seeded cover crop - 130 ac.

Resilient Farms: 2018 Map



Riparian Buffer 2013 - 2018

Riparian Buffer Timeline

- ▶ Spring 2013 - Spring 2015
 - ▶ Eliminate invasive reed canary grass and other species
 - ▶ 3 Controlled burns, multiple mowings, 2 Rodeo/Fusillade herbicide treatments
- ▶ 2015
 - ▶ May - Plant seedlings, install deer shelters
 - ▶ Summer/Fall/Winter - Mow, weed, seed prairie, maintain shelters
- ▶ 2016 - Mow, weed, plant replacement seedlings, prune, maintain shelters
- ▶ 2017 - Mid-contract spot spraying, mow, prune, remove selected shelters
- ▶ 2018 - Mow, spot spray weeds, prune, remove shelters

May 29, 2013



April 27, 2014



May 18, 2015: Planting



Shelters or Cages

- ▶ Very important for success - 575 total
- ▶ Economical Cages:
 - ▶ Tenax Plastic Poultry Fence 3' x 25' roll cut into 50" lengths (6 cages/role)
 - ▶ 4' Angle iron posts
 - ▶ 8" Cable ties - 3-4 per cage
- ▶ Testing: Plantra plastic grow tubes
 - ▶ Expensive
 - ▶ Not suitable for shrubs and some tree species
- ▶ Tested Repellex, hot pepper ointment and Deer Stopper



May 23, 2015: Shelters



June 10, 2015: Arrowheads, Milkweed & Butterflies





Fall 2015



July 17, 2016: Marestail Jungle



Fall 2016





March-
May, 2017



April 2017: Blossoms Everywhere



May 2017: Mid-Contract Spot Spraying



Prairie Strips 2014 - 2018

June 19, 2014: Planting STRIPS

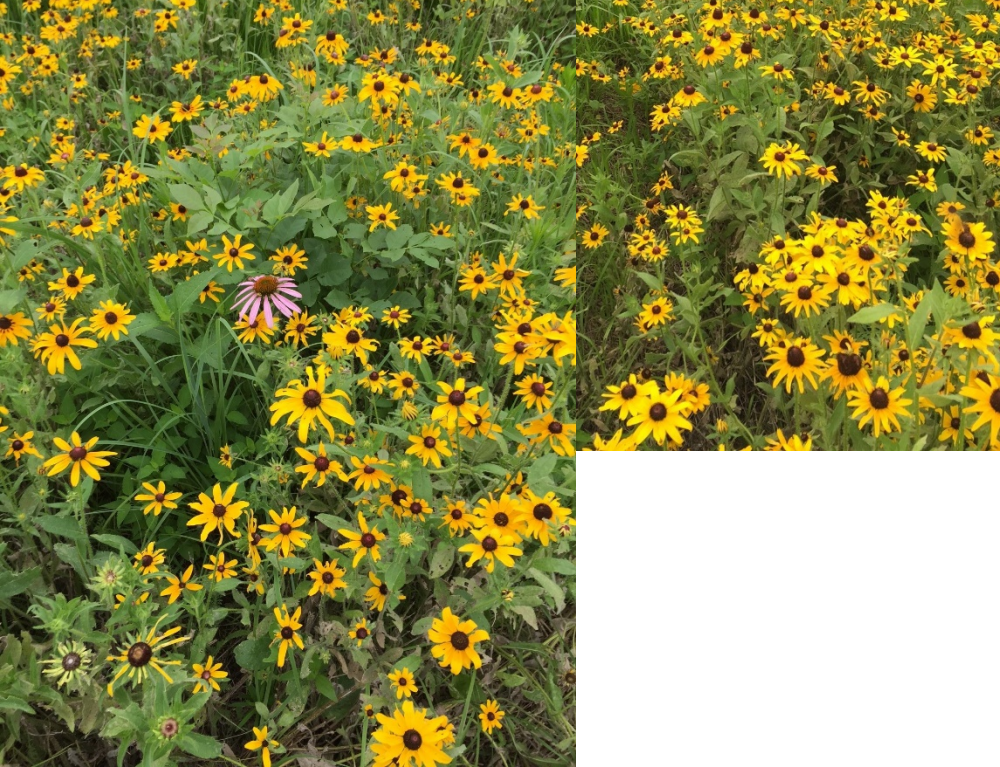
- ▶ Pheasants Forever of Montgomery County Drill
- ▶ Custom Mix: 7 Grasses + 25 Forbs



Prairie Strips: Summer 2014



July 27, 2015



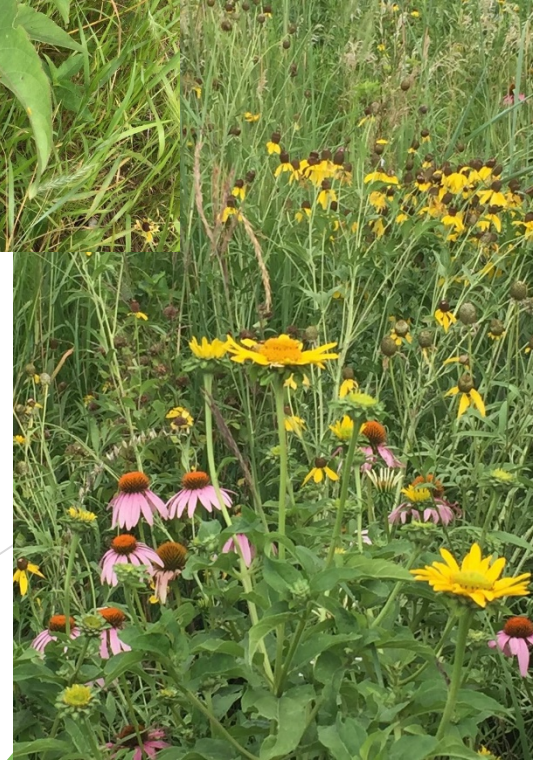
June 14, 2016



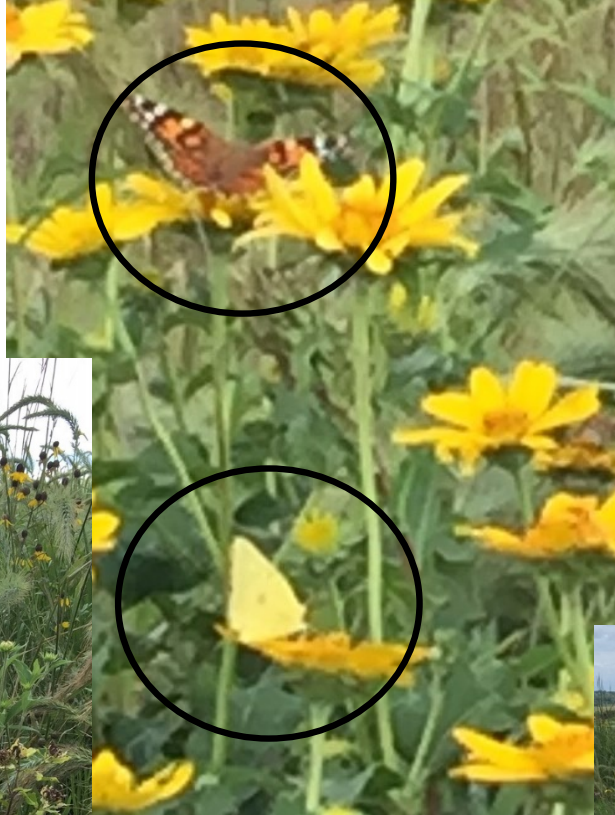
June 14, 2016



August 7, 2016



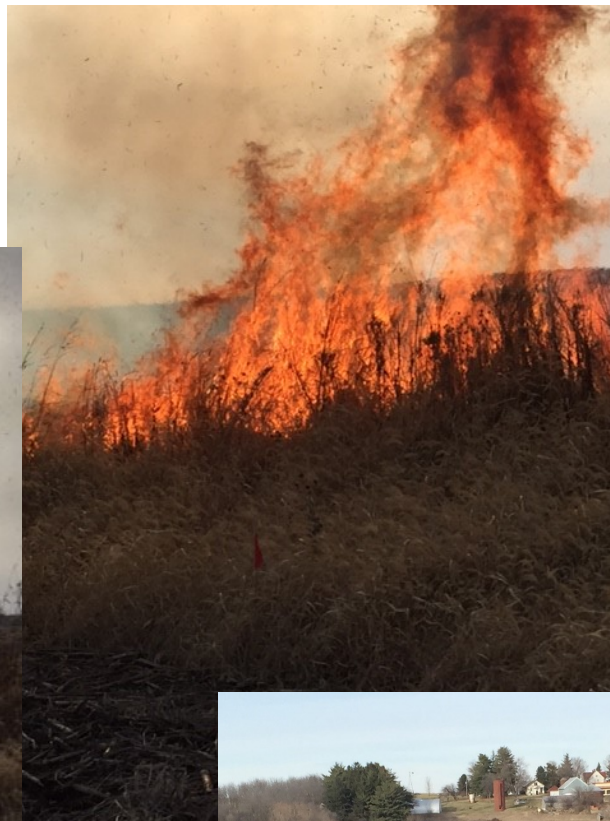
August 7, 2016



Dec 22, 2016: Prescribed Burn



Dec 22, 2016: Prescribed Burn



2017





2018

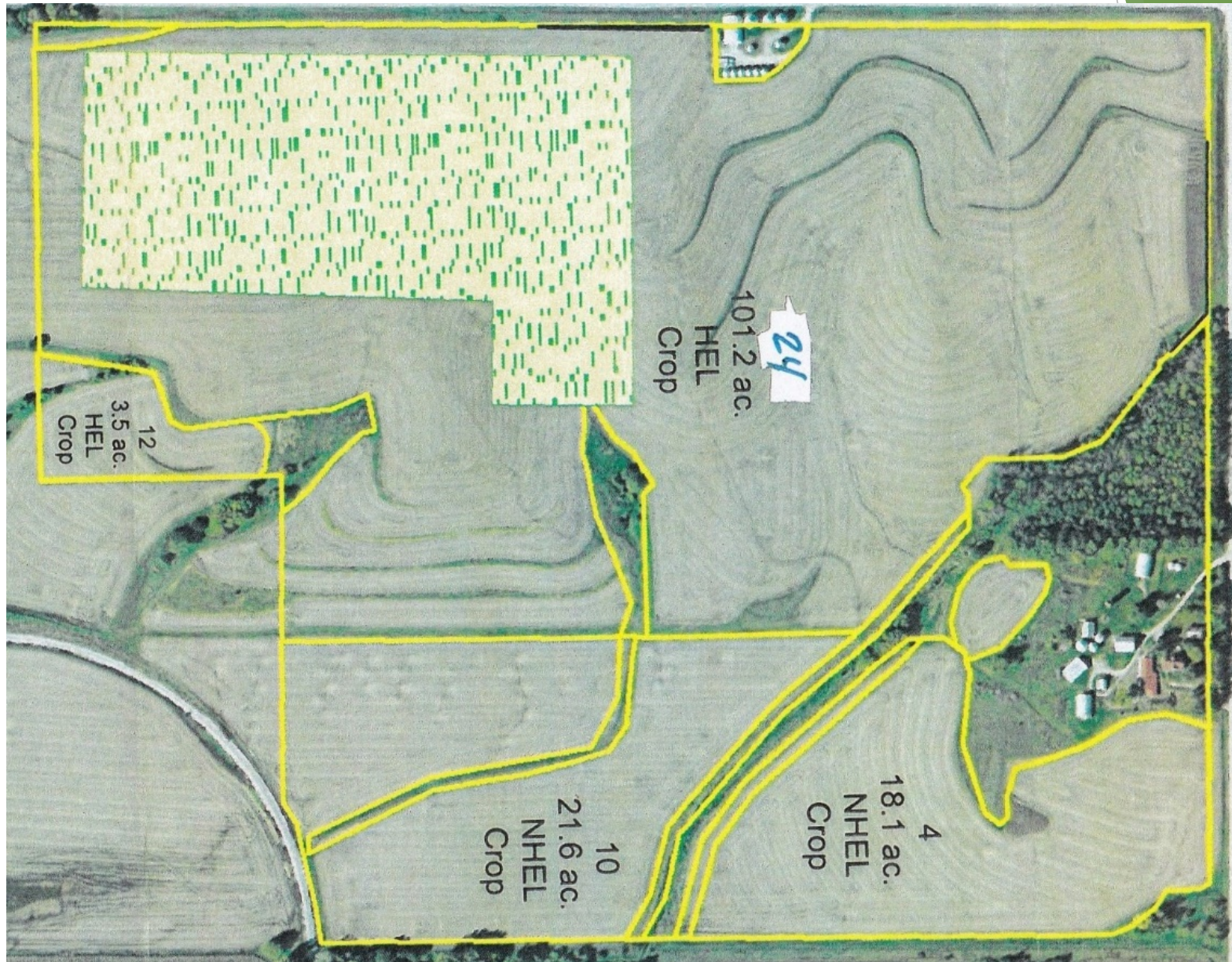


Cover Crops 2013 - 2018

Cover Crops Summary

Year	Row Crop	Seed Plan	Method	Seed Date	# of Acres	\$/Ac	CS/ Acre	OOP/ Acre	OOP Split
2013-2014	C→SB	Tillage Radish	Aerial Heli	9/3	23	\$49.70	\$21.74	\$27.96	50/50
2014-2015	SB→C	None							
2015-2016	C→SB	Rye/ Rape	Aerial Heli	Early Sept	24	\$36.25	\$25.00	\$11.25	50/50
2016-2017	SB→C	Oats/ Radish	Aerial Heli	9/24	34	\$35.61	\$0.00	\$35.61	100% NOL
2017-2018	C→SB	Rye/ Rape	Arial Plane	9/14	139	\$24.22	\$15.00	\$9.22	100% NOL
2018-2019	SB→C	Oats/ Radish	Arial Plane	9/13	130	\$32.00	\$15.00	\$17.00	100% NOL
Total 6-Year Investment:				Operator = \$457.00			NOL = \$5,159.0		

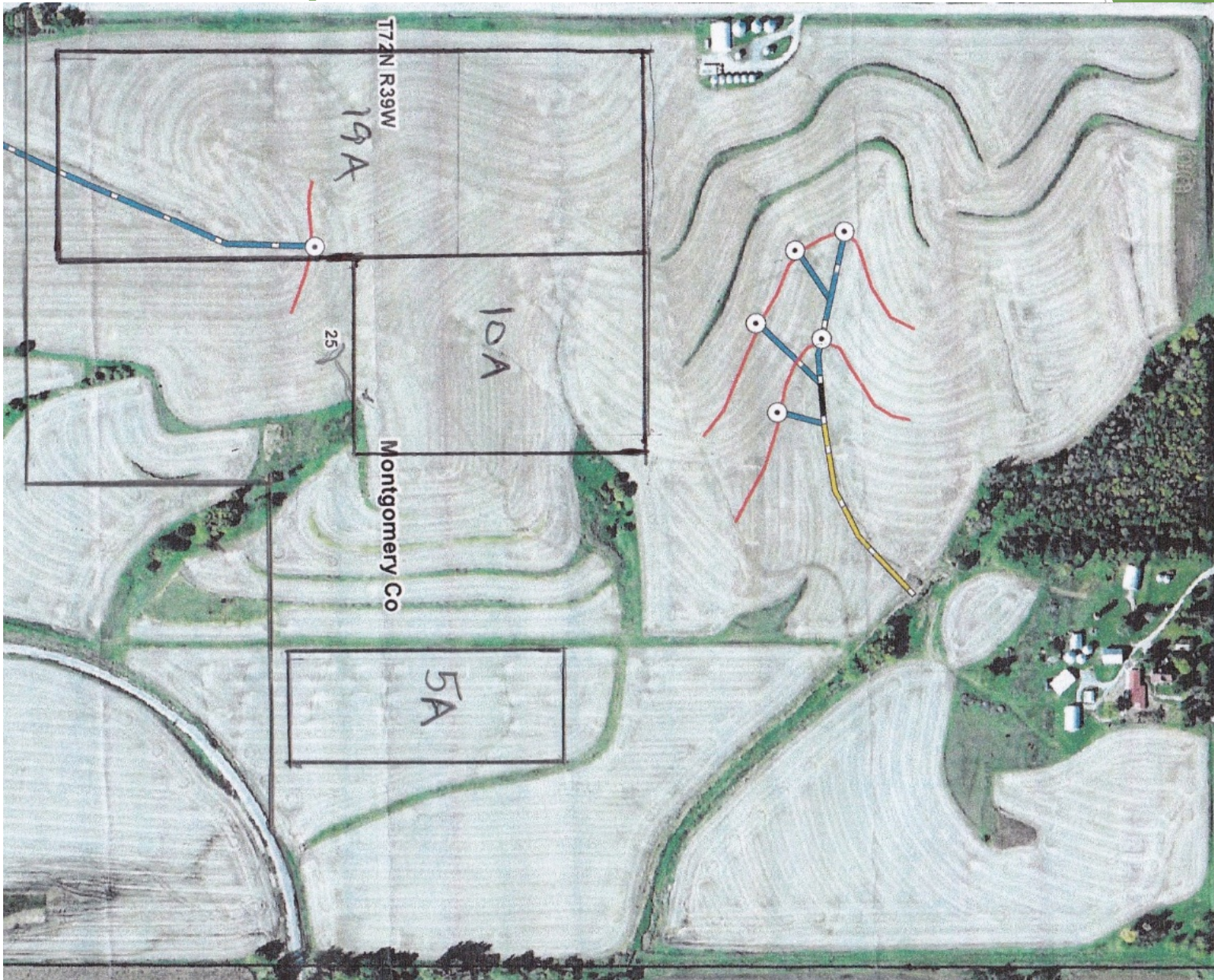
Cover Crops: Fall 2015 2nd Test



Cover Crops: Nov 5, 2015



Cover Crops: Fall 2016 3rd Test



2016 Oats/Tillage Radish: Aerial Seeded 9/24 & Establishment 10/8





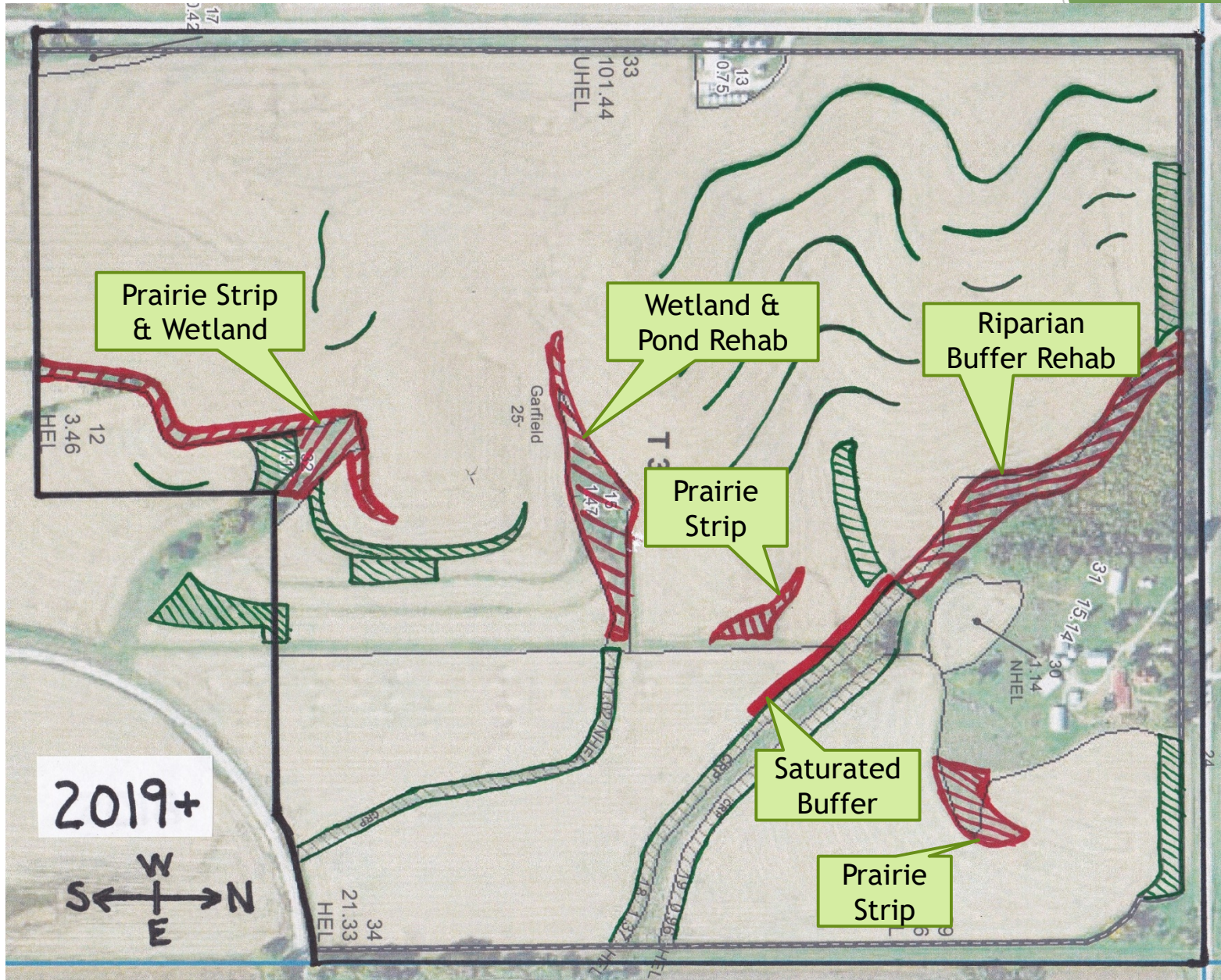
2017
Rye/Rapeseed:
All Row Crop
Acres Seeded by
Plane



Future Plans: 2019-2024

- ▶ Additional 3 Prairie Strips:
 - ▶ Convert dilapidated fence line and 2 non-row crop rocky contour strips
 - ▶ 1st must eliminate Canada thistle in areas
- ▶ Saturated Buffer along riparian buffer
- ▶ Convert 2 dilapidated ponds:
 - ▶ Natural wetland filtering nutrients before flowing into 1 rehabilitated pond
- ▶ Continue Cover Crops - annual seeding & tests
- ▶ Rehab upper third of creek riparian buffer:
 - ▶ Eliminate invasive tree/shrub species
 - ▶ Replace with native species

Resilient Farms: 2019-2024



Future Plans: Long Term

- ▶ Convert additional non-row crop acres into prairie strips
- ▶ Pursue 3-year crop rotation, adding a small grain
- ▶ Add small animals - e.g. hair sheep, chickens
- ▶ Remove, replace & add fences as needed
- ▶ Demolish and rehab selected buildings - sheds, old farm house, grain bins, etc.

Conservation & Ag Management Resources

- ▶ Practical Farmers of Iowa: www.practicalfarmers.org
- ▶ Trees Forever: www.treesforever.org
- ▶ Iowa State University STRIPS Research Project:
www.nrem.iastate.edu/research/STRIPs
- ▶ Iowa DNR Forestry Bureau Services:
www.iowadnr.gov/Conservation/Forestry
- ▶ USDA Farm Services Agency (FSA) Conservation Programs: Search
 - ▶ USDA Conservation Programs: Complete list of FSA Conservation Programs
 - ▶ USDA CRP Practices Library: Complete list of CRP Practices
- ▶ UNI Tall Grass Prairie Center: <https://tallgrassprairiecenter.org/>
- ▶ Iowa Pheasants Forever Native Seed Program:
<http://iowapf.net/NativeGrassProgram.aspx>
- ▶ Iowa State University Extension-Ag Decision Maker:
www.extension.iastate.edu/agdm

Ag Lease & Legal Resources

- ▶ Iowa State University Extension-Ag Decision Maker:
www.extension.iastate.edu/agdm
 - ▶ Lease Supplement for Obtaining Conservation Practices and Controlling Soil Loss
 - ▶ Conservation Practices for Landlords
 - ▶ Iowa Farmland Rental Rates & Cash Rental Rates for Iowa Surveys
 - ▶ Various Iowa Farm Lease Forms
- ▶ The Drake Agricultural Law Center: The Landowners Guide to Sustainable Farm Leasing: www.law.drake.edu/agLaw
- ▶ Farmland Information Center: www.farmlandinfo.org
- ▶ Land for Good:
<http://landforgood.org/resources/toolbox/toolbox-landowners/>

Riparian Buffer Design Resources

- ▶ Stewards of our Streams: Buffer Strip Design - Iowa State University
 - ▶ <https://www.leopold.iastate.edu/files/pubs-and-papers/1997-04-stewards-our-streams-buffer-strip-design-establishment-and-maintenan>
- ▶ University of Minnesota Extension
 - ▶ <https://www.extension.umn.edu/environment/agroforestry/riparian-forest-buffers-series/design-of-riparian-forest-buffers/>
- ▶ University of Nebraska Extension
 - ▶ <http://extensionpublications.unl.edu/assets/pdf/g1557.pdf>
- ▶ Maryland Cooperative Extension
 - ▶ https://extension.umd.edu/sites/extension.umd.edu/files/_docs/programs/riparianbuffers/FS725.pdf
- ▶ Soil Bioengineering or Streambank Restoration for Riparian Forest Buffers
 - ▶ https://extension.umd.edu/sites/extension.umd.edu/files/_docs/programs/riparianbuffers/FS729.pdf

Questions? Comments?