Iowa Great Lakes Watershed Management Plan

The Path to Clean Water

Thank you to David Thoreson, Blue Water Studios for background photo

Dickinson County Clean Water Alliance

Big Spirit Lake

- Lake Size – 4,684 acres
- Watershed Size – 14,399 acres
- Named RMA's – 7
  - Sandbar Slough
  - Hales Slough
  - Reeds Run
  - Templar Lagoon
  - Loon Lake
  - Little Spirit Lake
  - Hottes/Marble Lakes

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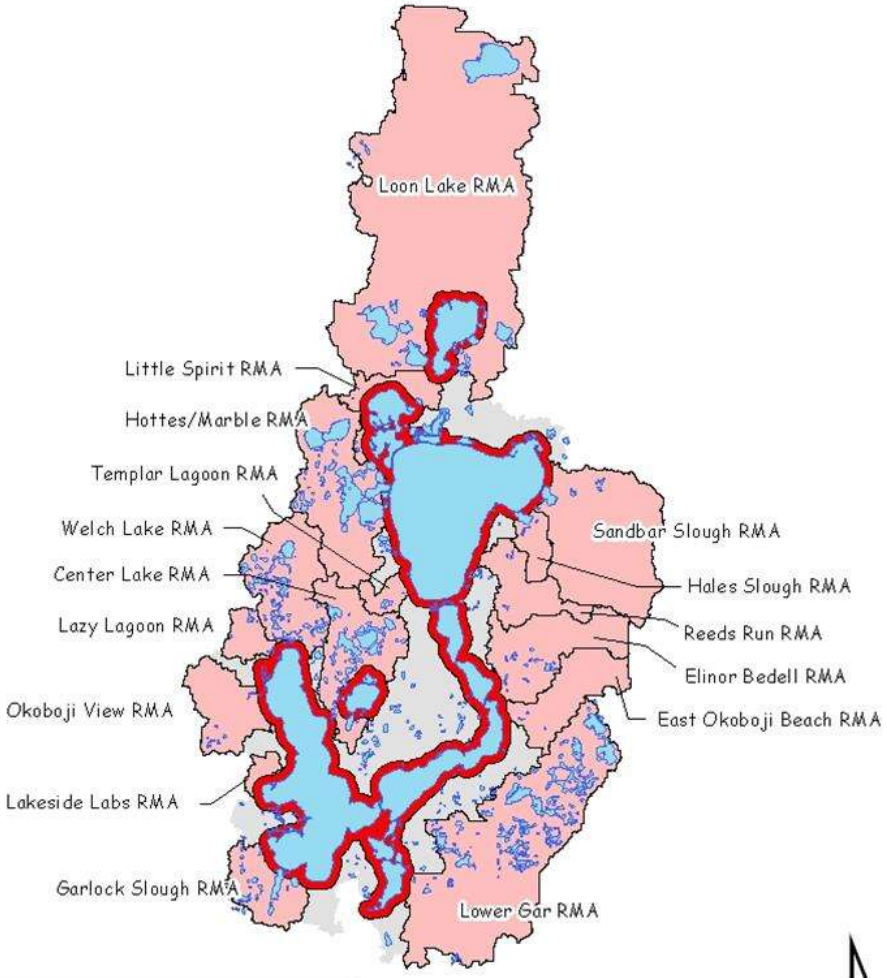
Iowa Great Lakes Watershed Resource Management Areas



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Iowa Great Lakes Watershed Assessment

Big Spirit Lake Subwatershed

Sheet & Rill Erosion

Legend

Lakes

Streams

Sheet & Rill Erosion

0 - 0.5 t/a/y

0.5 - 1

1 - 2

2 - 5

> 5

0 1.25 2.5 5 Miles

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Reeds Run RMA

- Planned action – 2016
- Approximate Cost – $392,784
- Phosphorus Removed – 1,874
- Cost per pound of P removed – $209

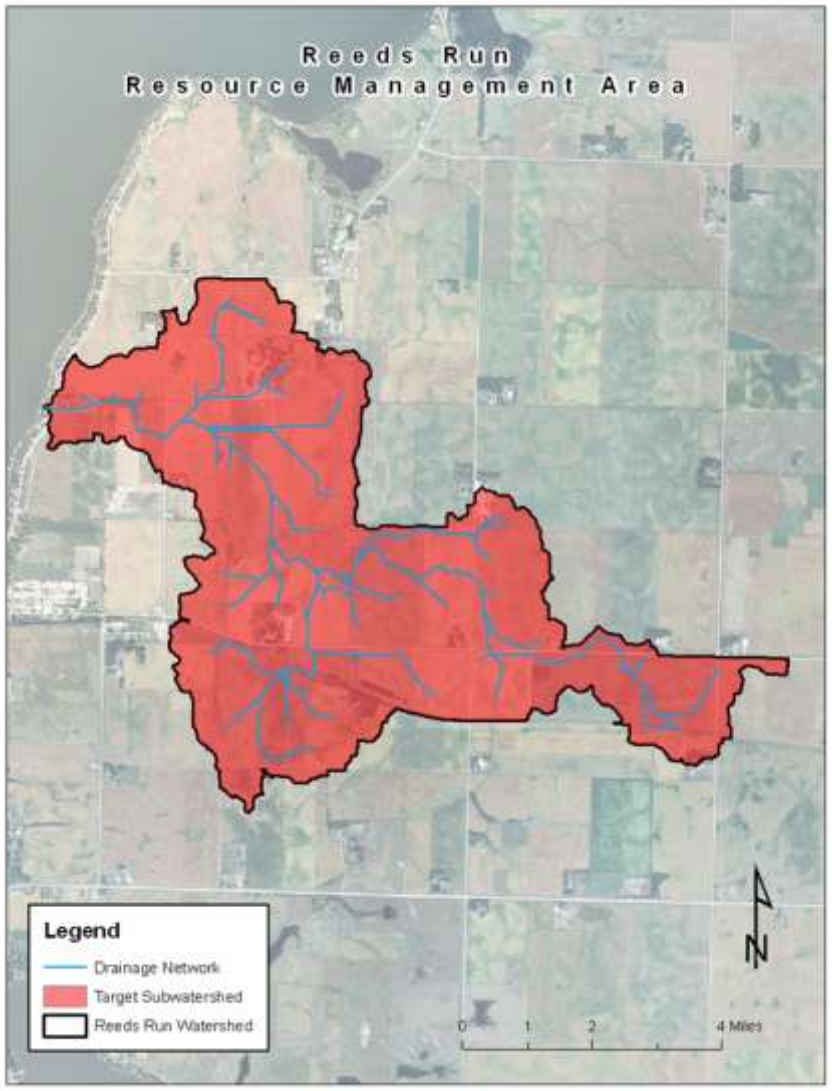

Figure 70 Reeds Run Resource Management Area

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Implementation Plan for Reeds Run RMA

Reeds Run Resource Management Area										
Clean Water Alliance					Today's Date:		1/10/2013		
	Project Lead:	John H. Wills							
	Start Date:	7/1/2012							
421			Annual	Long Term					
Goal	Tasks	Task Lead	Acres/feet/number	Acres/feet/number	% Complete	Estimated Annual Cost of Practice	Estimated Cost of Practice	Estimated Phosphorous Removal (lbs)	Annual cost per pound of P Removed	Cost per pound of P removed
1	**Phosphorus Management**				0%	$19,736	$0	450.8	-$50	$0
1.1	Conservation Tillage	SWCD	500		0%	-$500		50.05	-$10	$0
1.2	No-Till System	SWCD	266		0%	$3,192		94.40	$34	$0
1.3	P-Rate Reduction	SWCD	766		0%	-$8,426		48.79	-$173	$0
1.4	Cover Crop	SWCD	566		0%	$25,470		257.53	$99	$0
2	**Land Use Change**				0%	$0	$195,100	679.5	$0	$1,038
2.1	Grassed Waterway	SWCD		5000	0%		$12,500	175.60	$0	$71
2.2	Sediment Basins	SWCD		12	0%		$21,600	196.30	$0	$110
2.3	Grade Stabilization Structure	SWCD		1	0%		$18,000	72.30	$0	$249
2.4	Land Retirement	SWCD		22	0%		$143,000	235.30	$0	$608
3	**Edge of Field**				0%	$0	$110,248	647.7	$0	$703
3.1	Wetland Restoration	SWCD		3	0%		$60,000	336.90	$0	$178
3.2	Sediment Control Practice	SWCD		4	0%		$40,000	97.30	$0	$411
3.3	Vegetative Buffer	SWCD		8	0%		$1,848	128.60	$0	$14
3.4	Tile Intake Treatment	SWCD		28	0%		$8,400	84.90	$0	$99
4	**In-Lake Treatment**					$0	$36,200	95.6	$0	$379
4.1	Shoreline/bank Restoration	FISH		200	0%		$36,200	95.60	$0	$379
5	**Education**				0%	$11,000	$0	0.00	$11,000	$0
5.1	Radio	SWCD			0%	$9,000			$9,000	$0
5.2	Print	SWCD			0%	$1,500			$1,500	$0
5.3	Landowner Visits	SWCD			0%	$0			$0	$0
5.4	Landowner Seminar	SWCD			0%	$500			$500	$0
6	**Monitoring**				0%	$20,500	$0	0.0	$20,500	$0
6.1	Lake Monitoring	SWCD			0%	$6,000			$6,000	$0
6.1.1	Vegetation	SWCD			0%	$500			$500	$0
6.1.2	CLAMP	LSL			0%	$500			$500	$0
6.1.3	Cyanobacteria	ISU			0%	$5,000			$5,000	$0
6.2	Wetland	SWCD			0%	$5,000			$5,000	$0
6.3	LID Practice Samples	SWCD			0%	$3,500			$3,500	$0
	Totals					$51,236	$341,548	1,874		

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Reeds Run Resource Management Area

Clean Water Alliance					Today's Date:			1/10/2013		
	Project Lead:	John H. Wills								
	Start Date:	7/1/2012								
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1.4	Cover Crop	SWCD	566		0%	$25,470		257.53	$99	$0

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5.3	Landowner Visits	SWCD			0%	$0			$0	$0
5.4	Landowner Seminar	SWCD			0%	$500			$500	$0

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[42]			Annual	Long Term						
Goal	Tasks	Task Lead	Acres/feet/number	Acres/feet/number	% Complete	Estimated Annual Cost of Practice	Estimated Cost of Practice	Estimated Phosphorous Removal (lbs)	Annual cost per pound of P Removed	Cost per pound of P removed
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	Totals					$51,236	$341,548	1,874		

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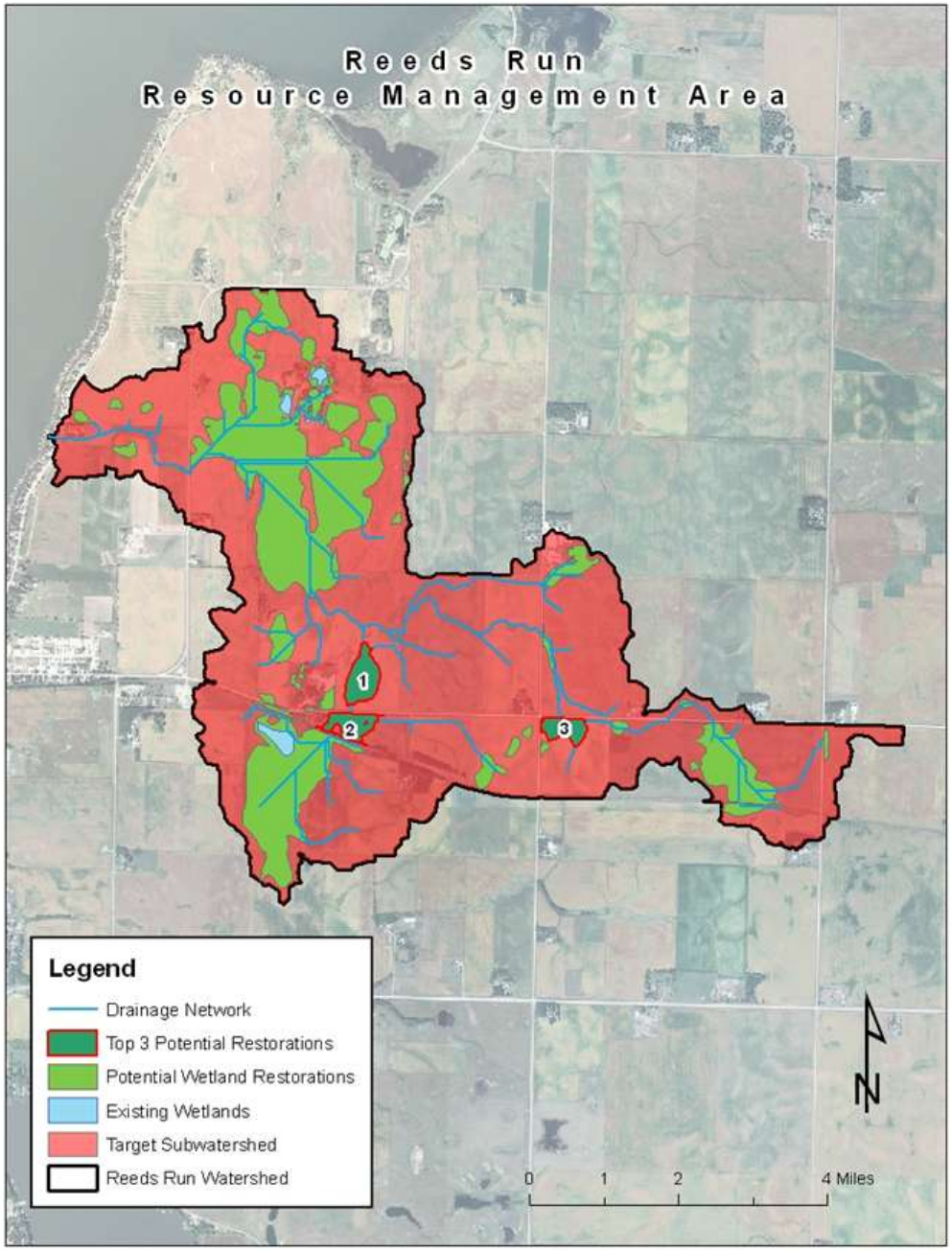

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Figure 71 Reeds Run Priority Wetland Restorations

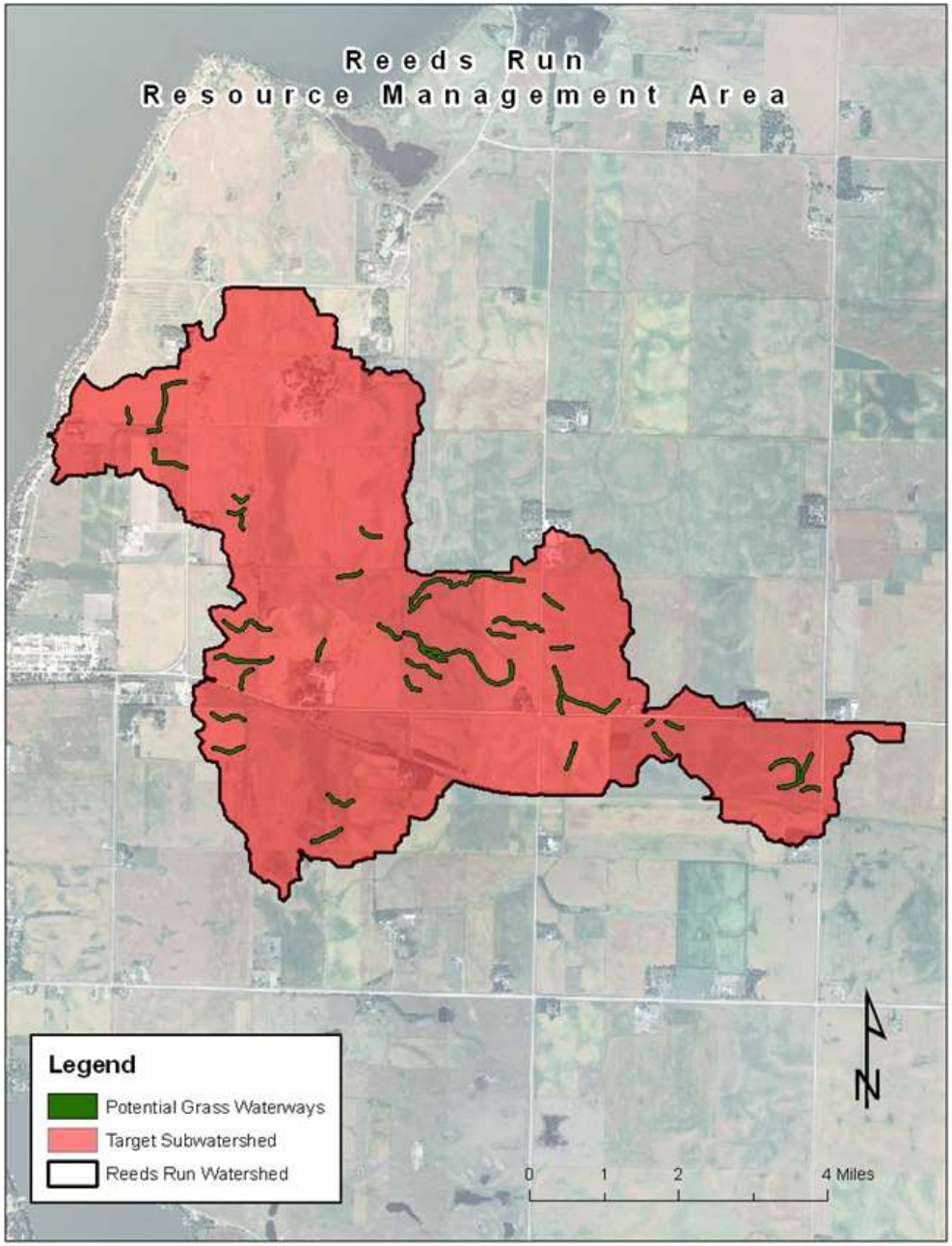

Figure 72 Reeds Run Ephemeral Gullies

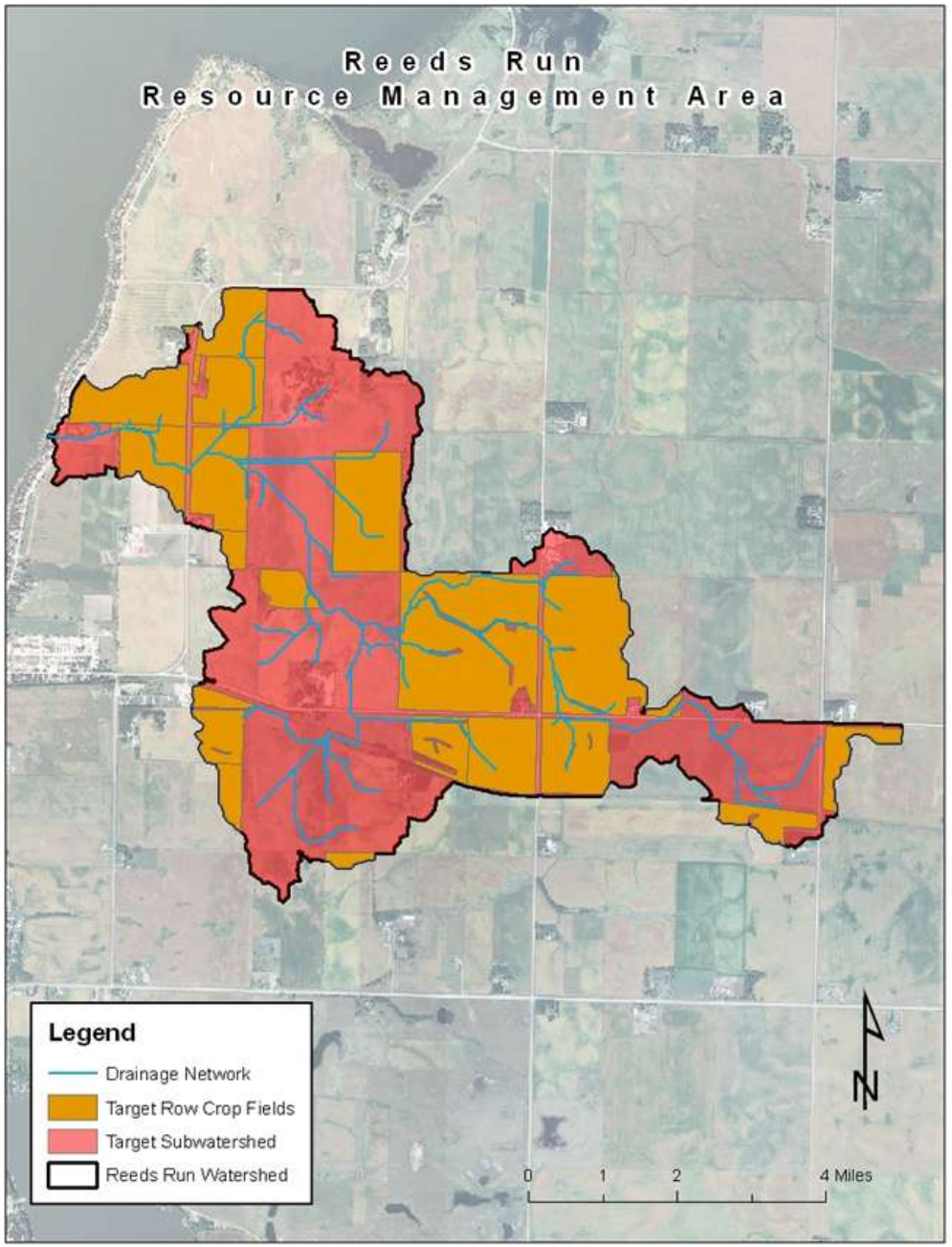

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Figure 73 Reeds Run Target Row Crop Fields

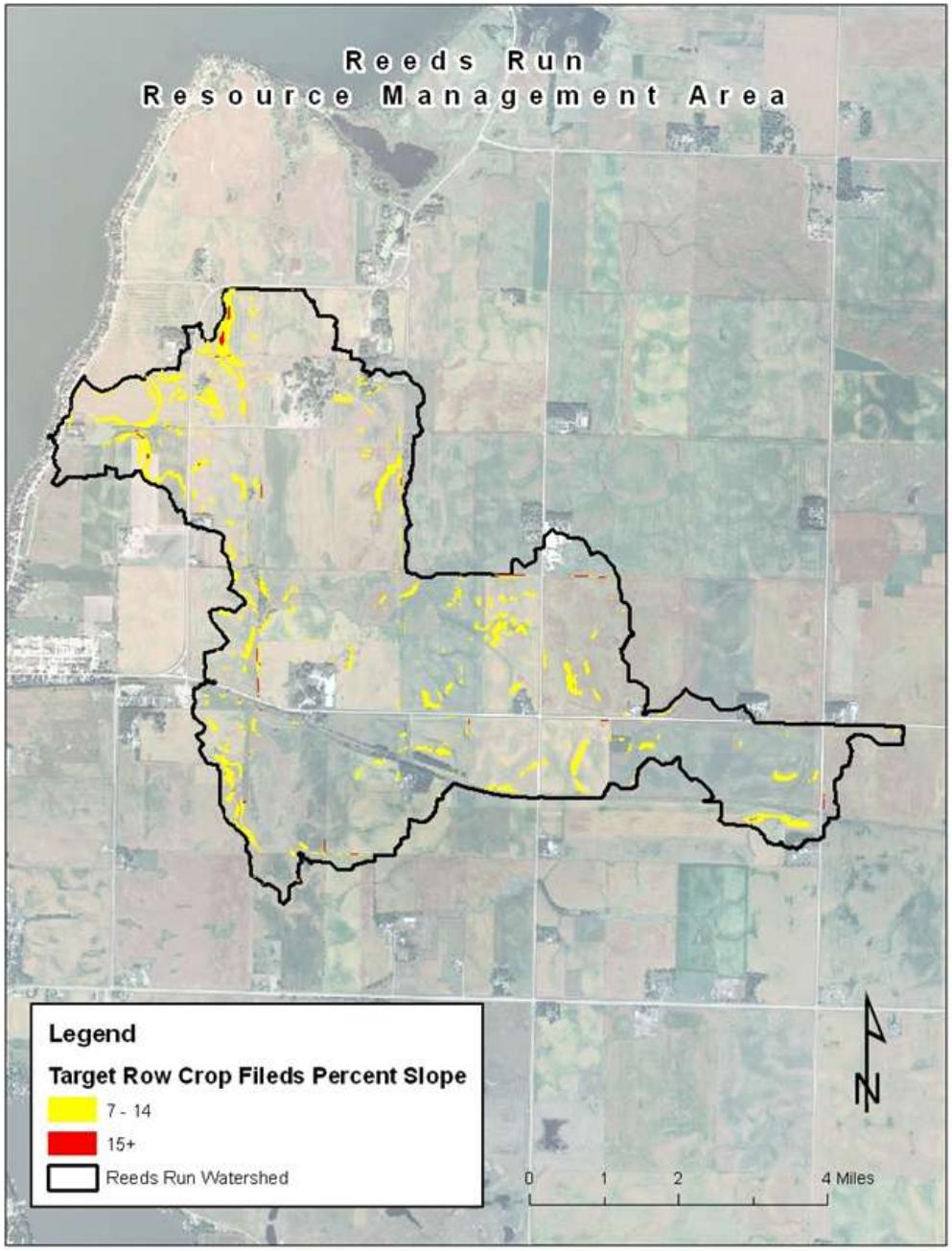

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Figure 74 Reeds Run Target Row Crop Slopes

Totals from Big Spirit Lake

- Total Cost – $6,433,869
- Total Phosphorus Removed -- 61,683 Pounds
- Total Cost per Pound Removed -- $104

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IGL Watershed Totals

- Estimated Cost = $21,717,939
- Estimated Phosphorus Removed = 113,905
- Estimated $ per Pound of P Removed = $191
- Estimated Completion Date = 2035

United to keep our lakes alive!
Dickinson County
Clean Water Alliance

Challenges

- Number 1: Money, where does 21 million come from over 22 years?
  - 300 million dollars spent here each year for entertainment and tourism or 6.6 billion during the same time period; not to mention property!
- Number 2: Weather and uncontrollable situations
- Number 3: Commodity Prices
- Number 4: New science in the future

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Questions?