Profiling Expiring CRP Acres with Common Land Unit Data

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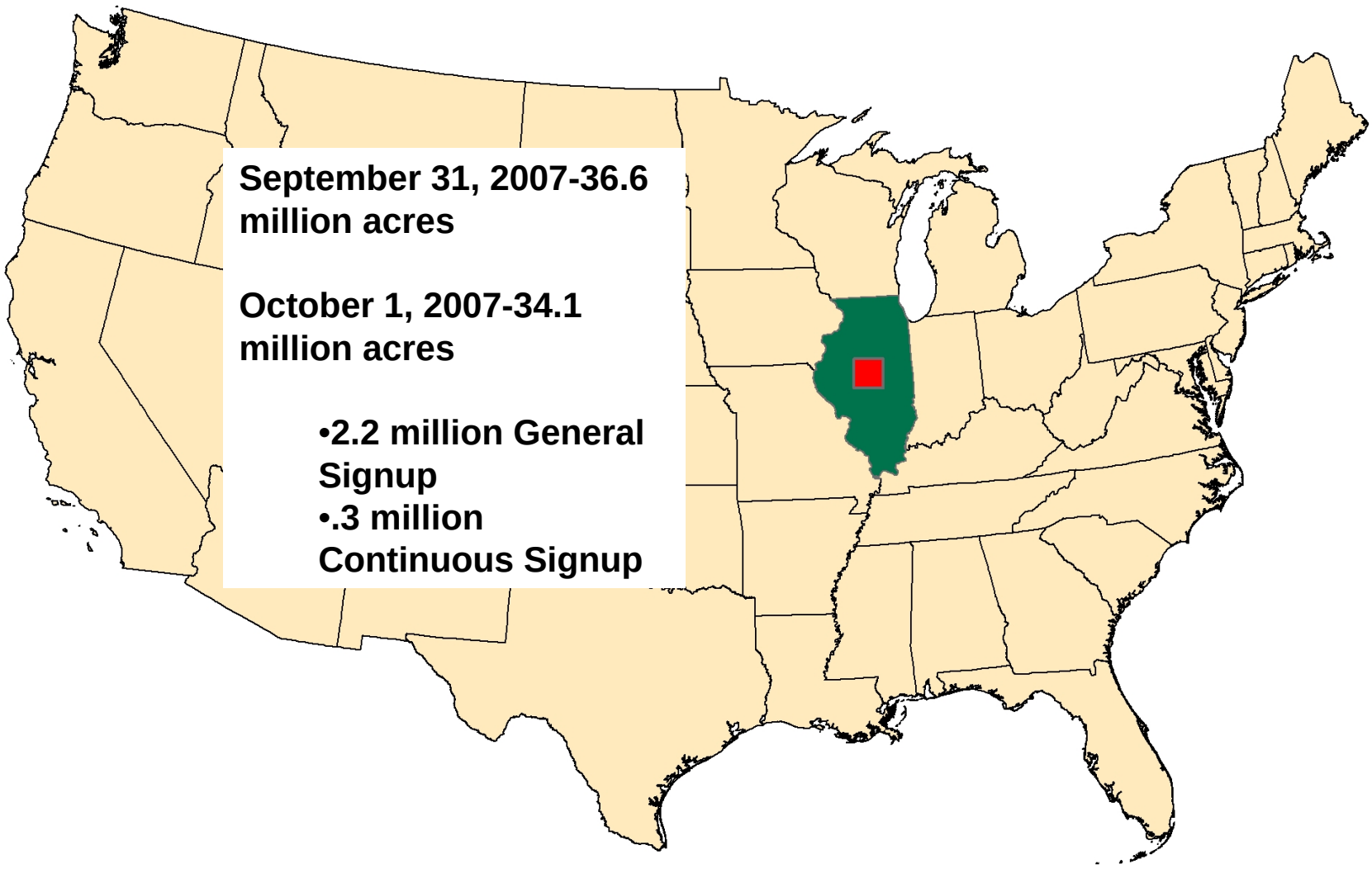
Conservation Reserve Program



September 31, 2007-36.6 million acres

October 1, 2007-34.1 million acres

- **2.2 million General Signup**
- **.3 million Continuous Signup**

Questions

National/Regional Questions

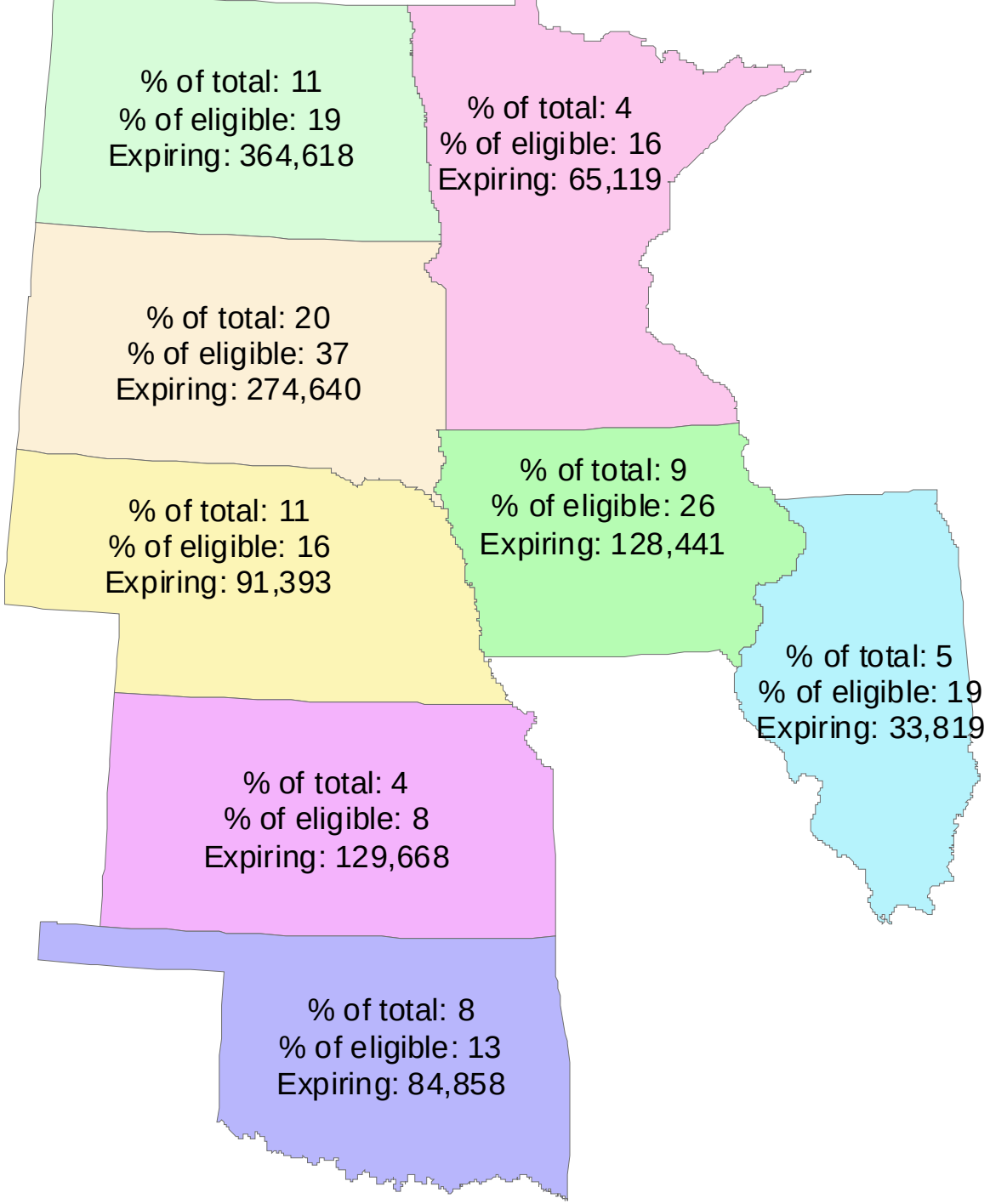
- Where did acres expire?
- What type of acres expired?

Questions for a later date

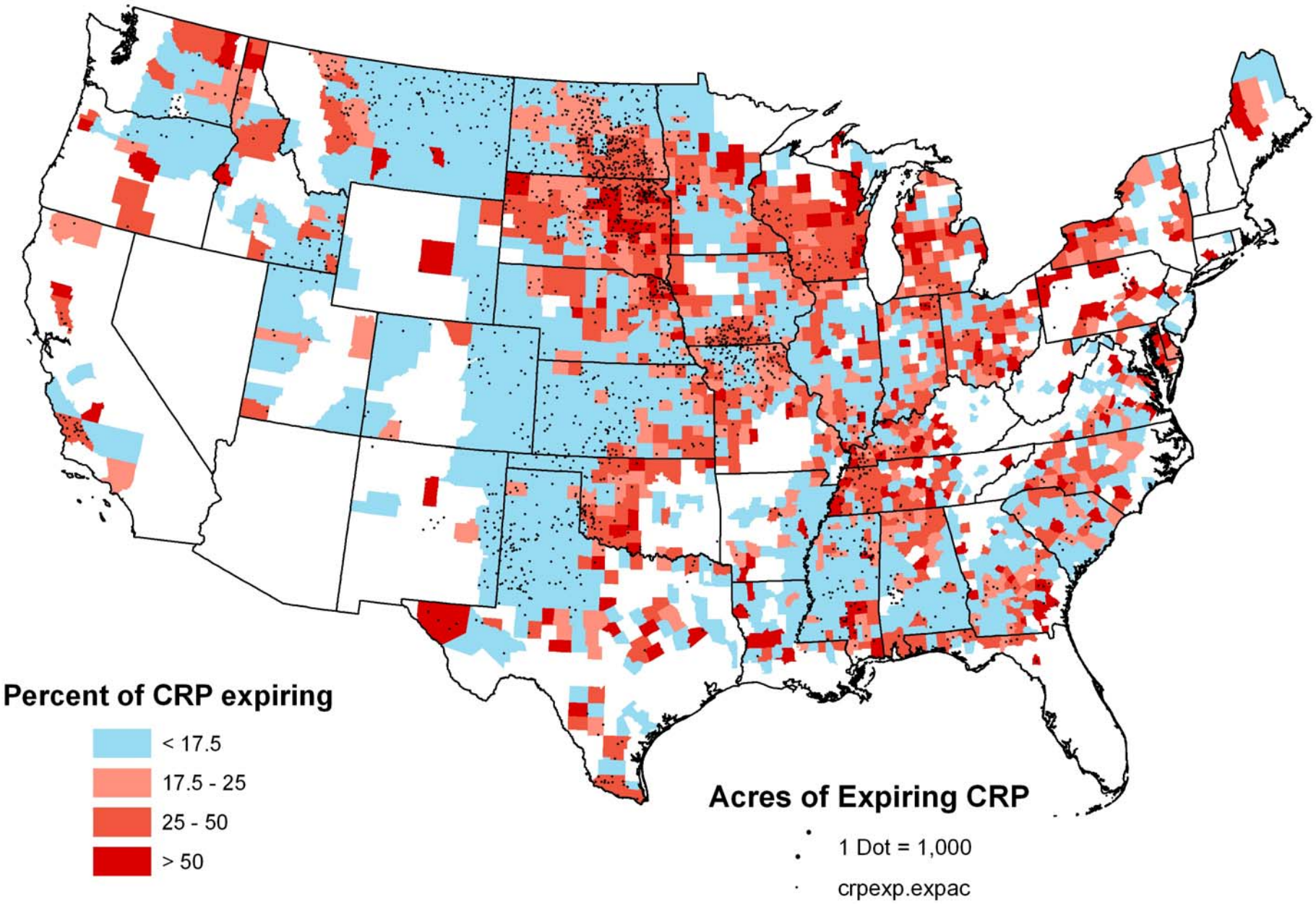
- Who chose not to re-enroll or extend?
- Why did producers chose not to re-enroll or extend?
- What will be the land use profile of the expiring acres?

Expiring CRP Acres

- **15.7 million acres eligible for re-enrollment or contract extensions**
- **2.2 million general signup acres chose not to re-enroll/extend**



Location and concentration of expiring general sign-up acreage



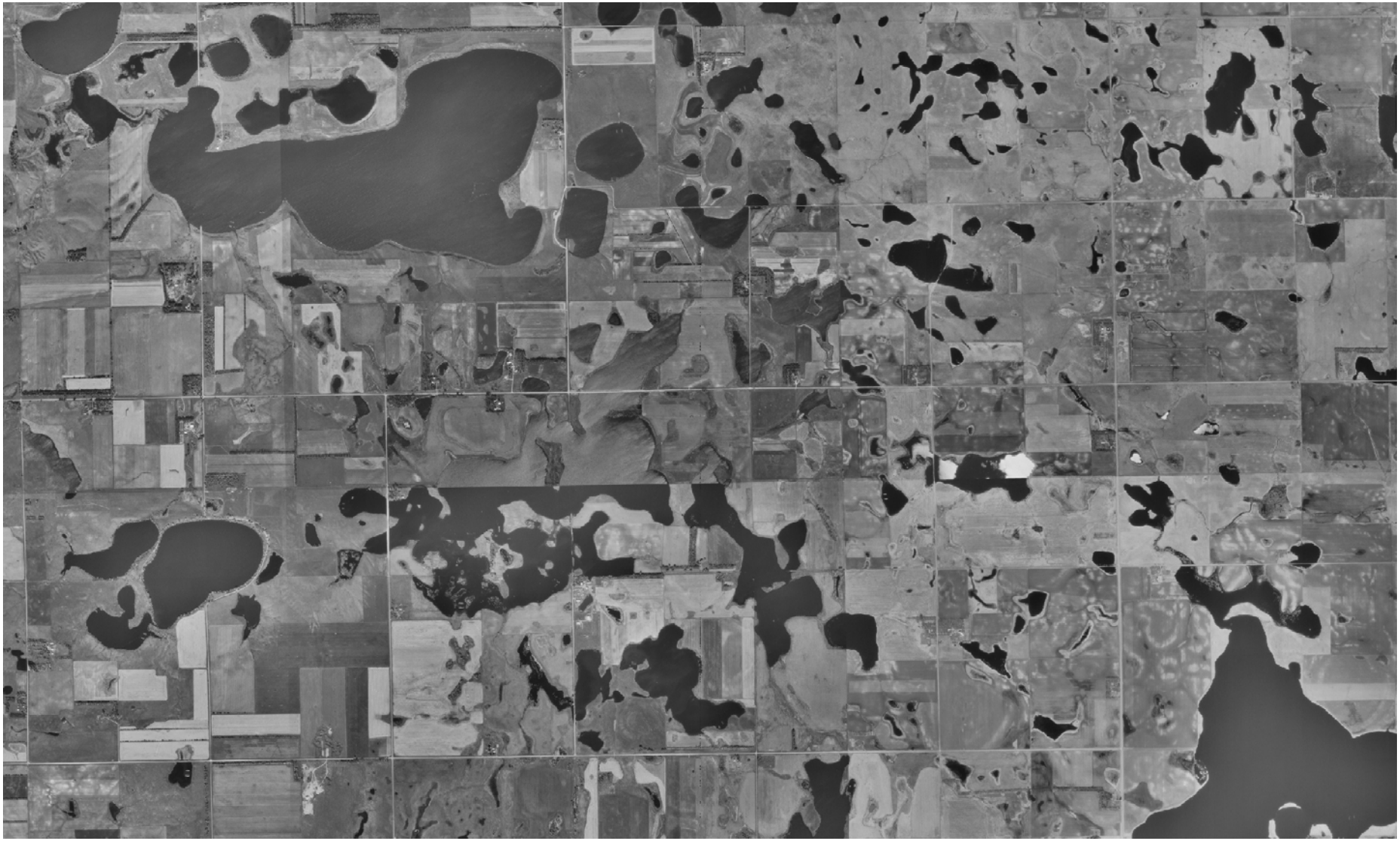
Expiring practices

Practice	Expiring acres	% of eligible acres expiring
CP1: Introduced grasses and legumes - new seedings	291,800	19.3
CP2: Native grasses - new seedings	248,000	13.0
CP3: New softwood trees	40,000	28.8
CP3A: New hardwood/long leaf pine trees	17,500	12.9
CP4D: Permanent wildlife habitat	73,000	20.1
CP10: Existing grasses or legumes	1,371,000	12.5
CP11: Existing trees	98,500	13.5
CP23: Wetland restoration	147,000	20.6

Additional questions

- Are the most erodible acres expiring?
- Are the most productive acres expiring?
- Do expiring acres tend to be closer to water bodies?
- Do expiring acres tend to be part of larger patches?

CLU/CRP Database



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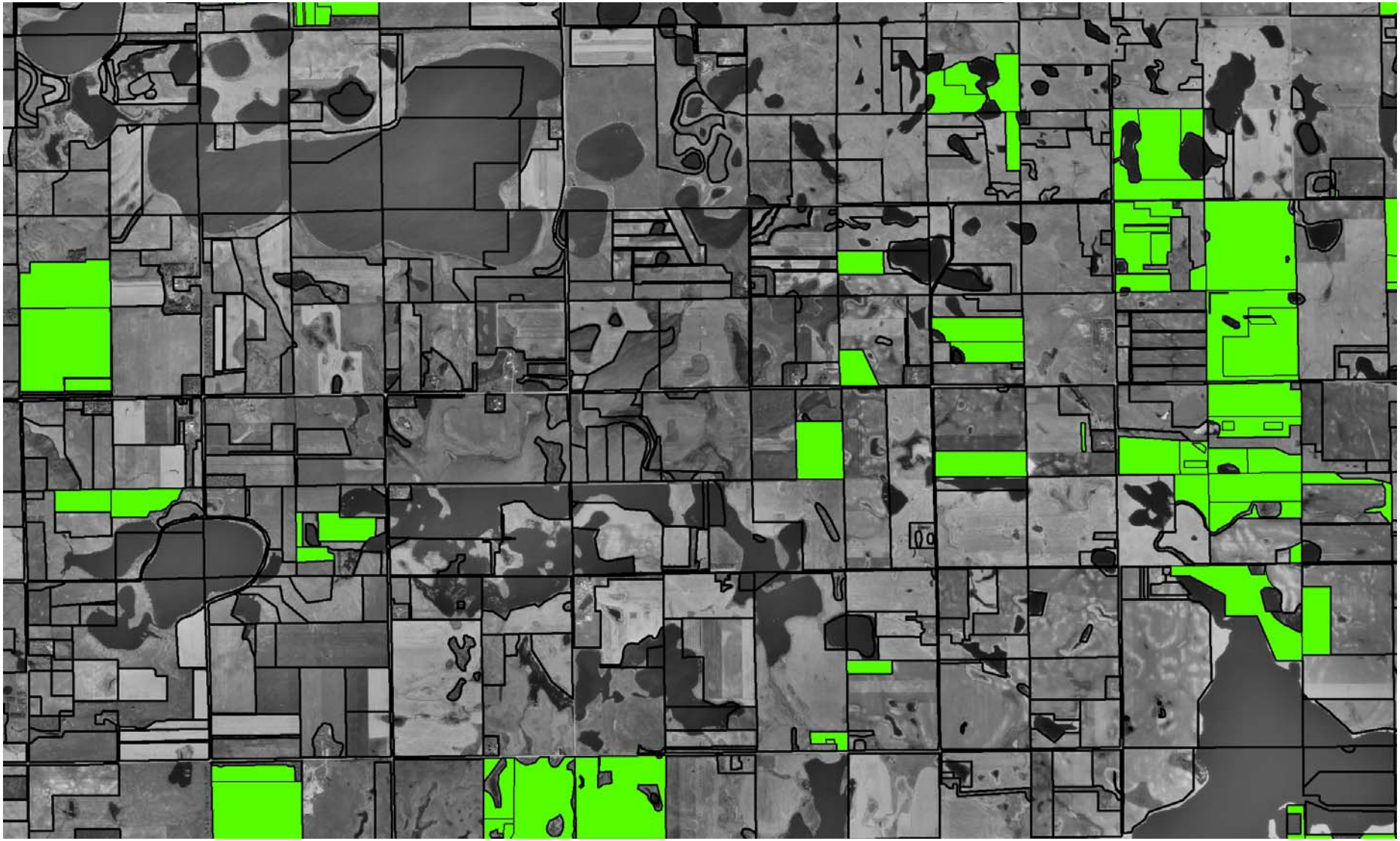
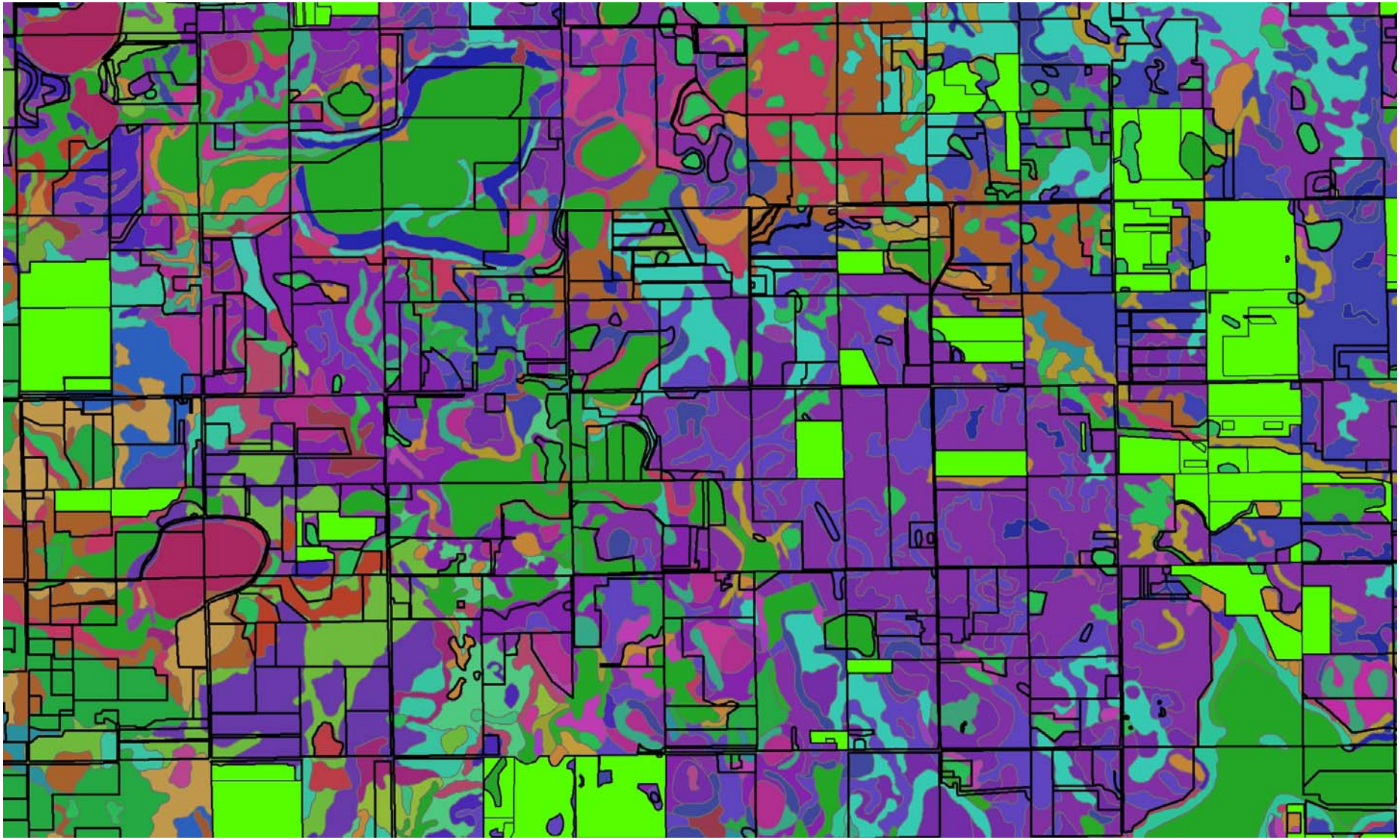
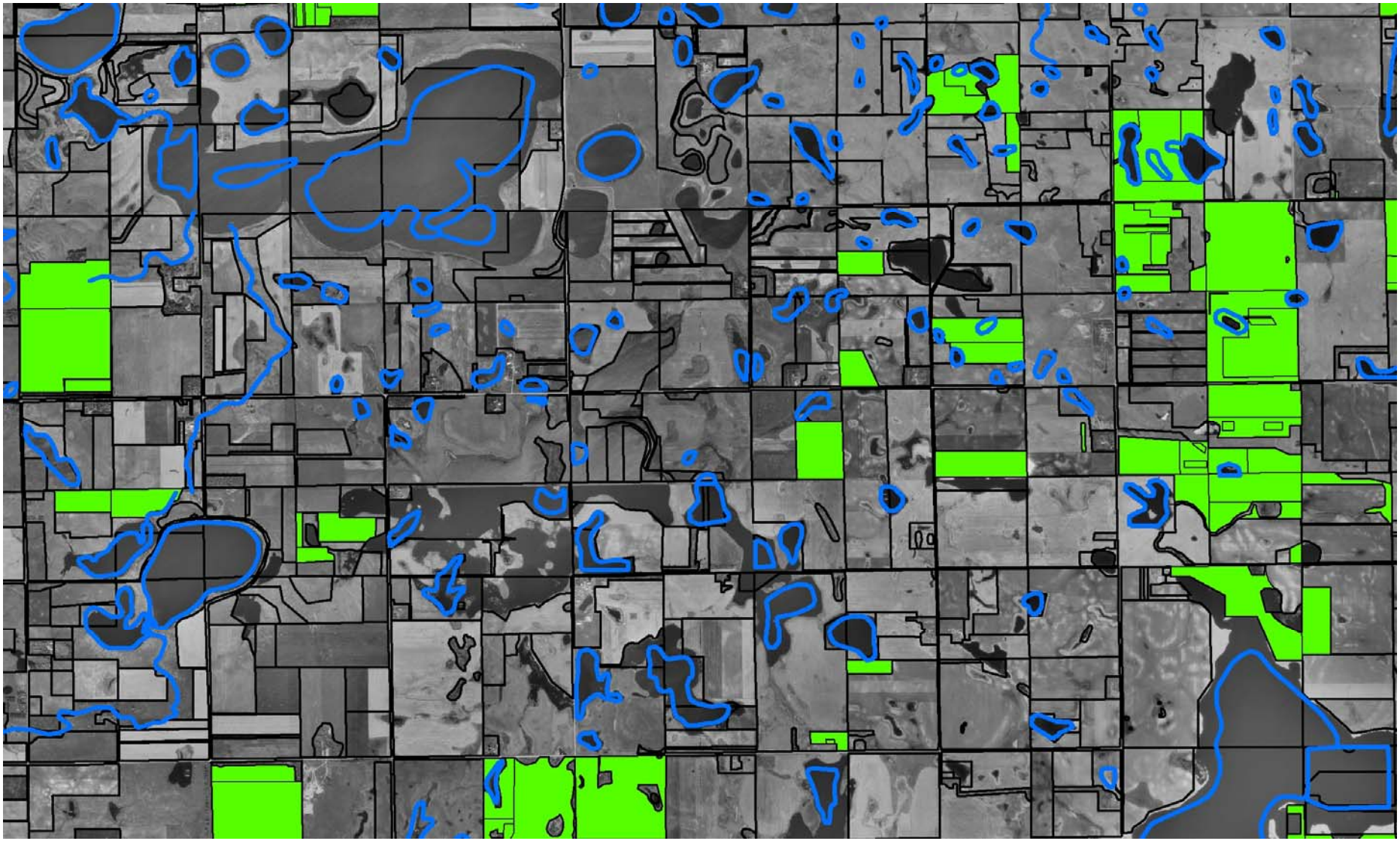


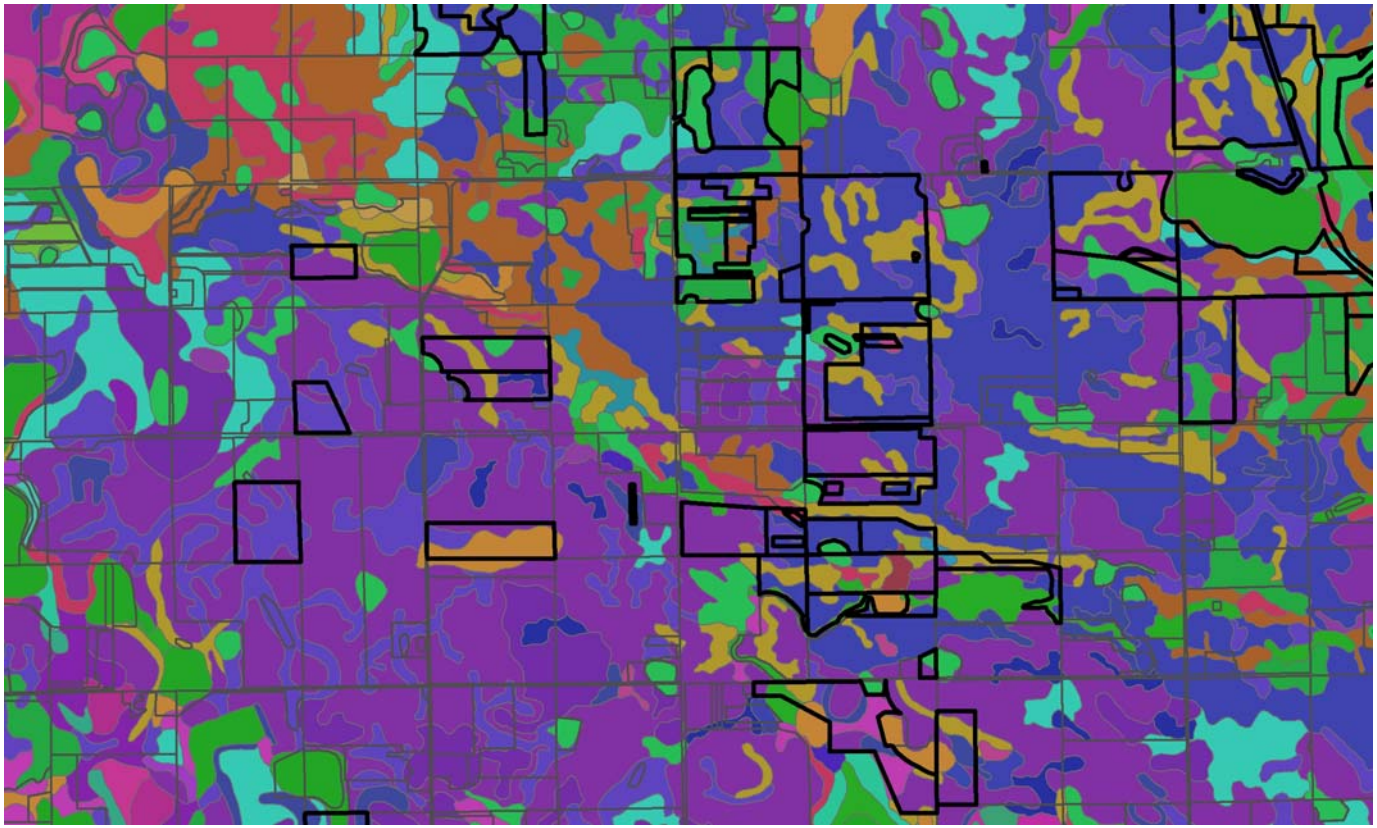
CLU/CRP Database



CLU/CRP Database



Deriving soil properties from SSURGO



SSURGO soil attributes

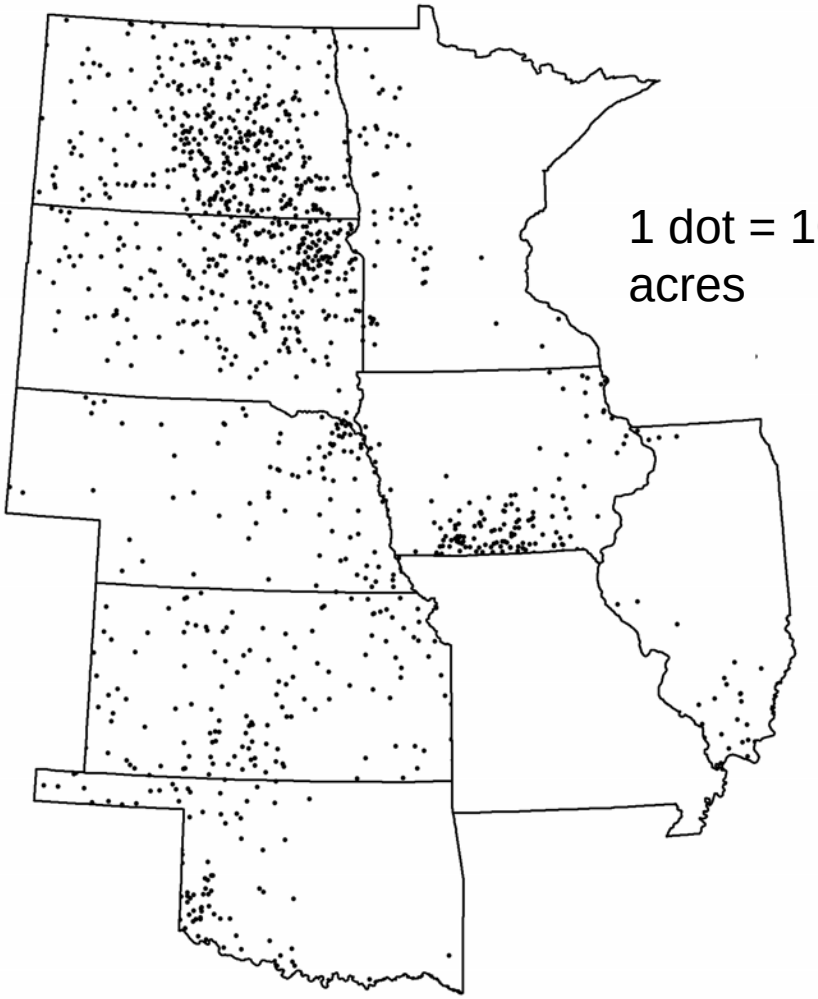
- Highly erodible soils
- Yields
- Land capability class

Highly Erodible Soils

State	Percent of expiring acres that are HEL	Percent of re-enrolling/extending acres that are HEL
Illinois	**86**	**84**
Iowa	**89**	**88**
Kansas	**73**	**79**
Minnesota	**27**	**37**
Nebraska	**84**	**87**
North Dakota	**43**	**45**
Oklahoma	**75**	**82**
South Dakota	**31**	**49**

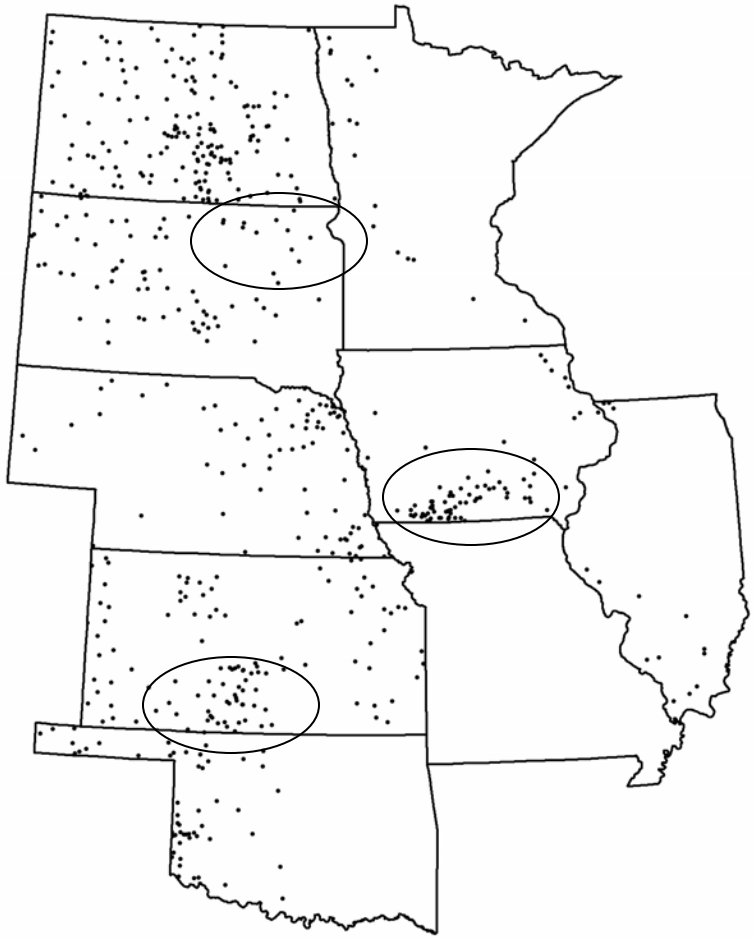
Expiring Highly Erodible CRP

All expiring acres



1 dot = 1000 acres

HEL expiring acres



Productivity: Crop yields on CRP fields eligible for re-enrollment/extension

State	Corn Yields		Soybean Yields		Winter Wheat Yields	
	Expiring	Remaining	Expiring	Remaining	Expiring	Remaining
Illinois	**112**	**113**	**37**	**36**	**46**	**48**
Iowa	**116**	**119**	**36**	**37**	**--**	**--**
Kansas	**98**	**103**	**24**	**24**	**21**	**19**
Minnesota	**85**	**83**	**29**	**29**	**--**	**--**
Nebraska	**64**	**60**	**26**	**26**	**31**	**31**
North Dakota	**61**	**60**	**20**	**20**	**20**	**20**
Oklahoma	**--**	**--**	**--**	**--**	**16**	**17**
South Dakota	**51**	**46**	**21**	**21**	**30**	**30**

Productivity: Land Capability Class on CRP fields eligible for re-enrollment/extension

State	% CRP acres LCC 2		% CRP acres LCC 3		% CRP acres LCC 4	
	Expiring	Remaining	Expiring	Remaining	Expiring	Remaining
Illinois	**34**	**34**	**29**	**29**	**23**	**23**
Iowa	**13**	**13**	**46**	**46**	**28**	**26**
Kansas	**26**	**21**	**43**	**50**	**21**	**21**
Minnesota	**27**	**37**	**28**	**30**	**39**	**33**
Nebraska	**11**	**9**	**28**	**30**	**37**	**35**
North Dakota	**38**	**36**	**31**	**30**	**14**	**15**
Oklahoma	**21**	**34**	**45**	**46**	**22**	**14**
South Dakota	**39**	**31**	**24**	**30**	**21**	**20**

How may water bodies be impacted?

•Only used CRP grass for this analysis

Possible water data sources:

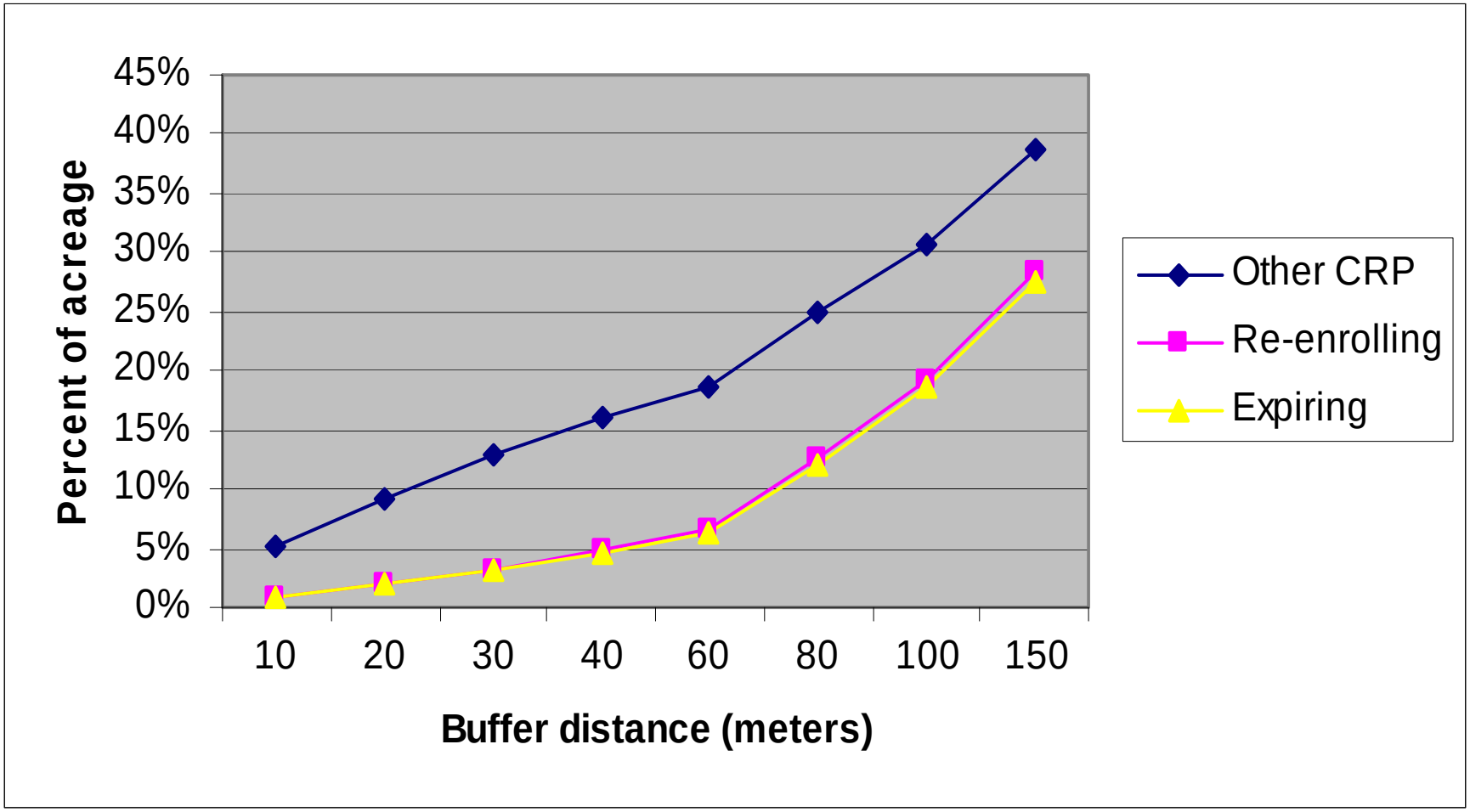
•National Hydrography Database

•Cropland Data Layer

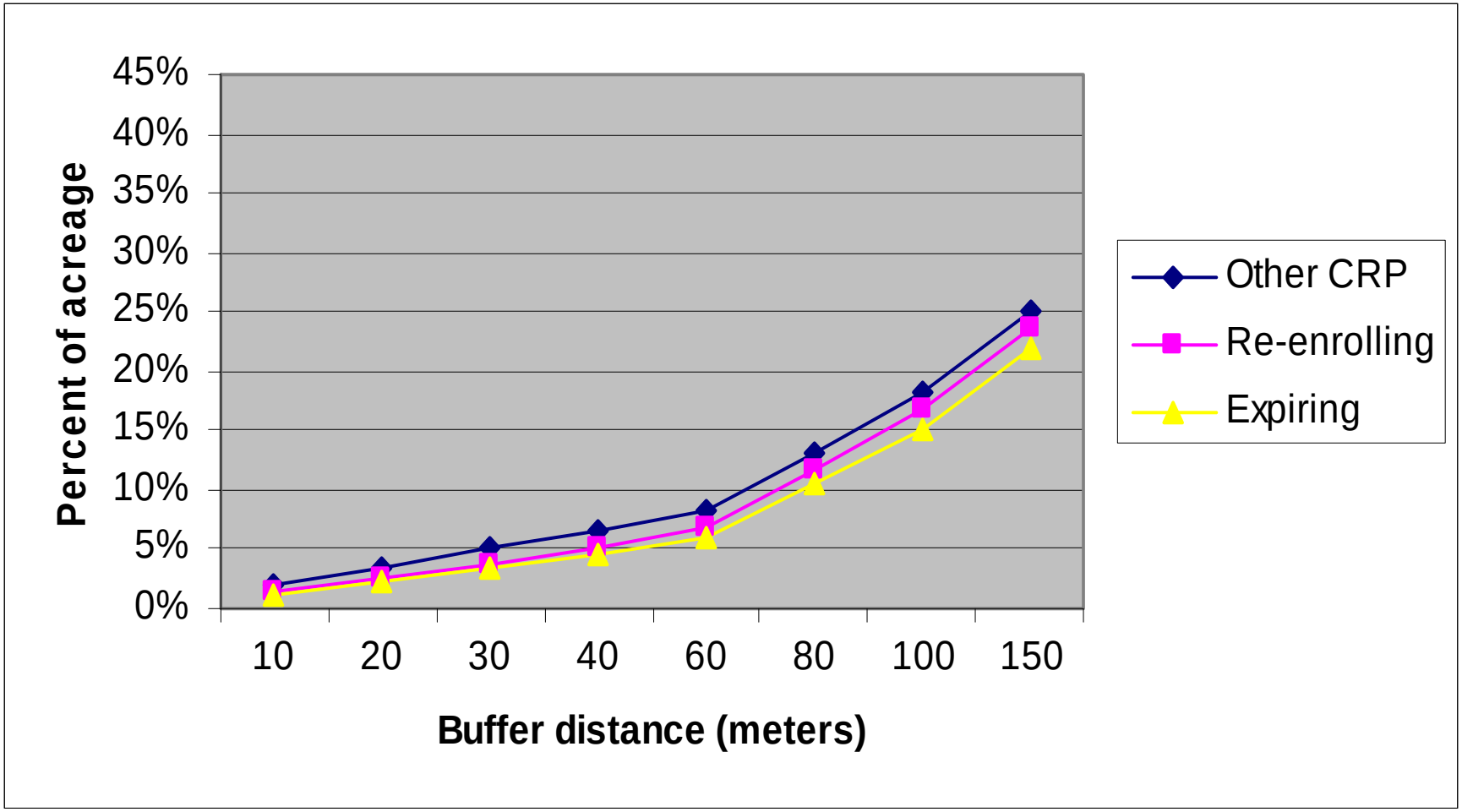
•NLCD 2001

•Wetlands Geodatabase

Distance to water
Iowa

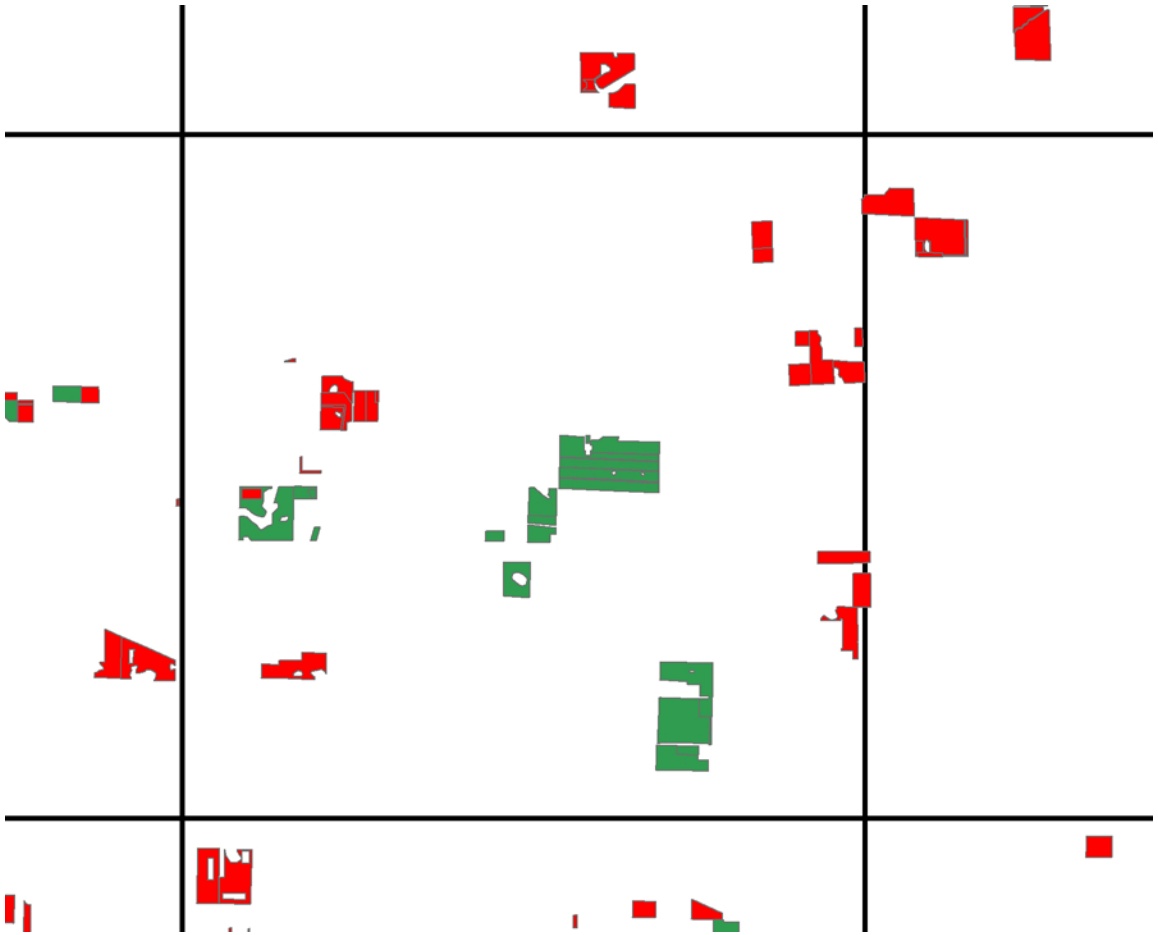


Distance to water
Kansas



How will patch size/area change?

- 40% of distinct CRP parcels are CREP/CONTINUIOUS
- Therefore, just used general signup
- Used FRAGSTATS
- 10KM grid
- Sample size = 1/3 of all grid cells with CRP

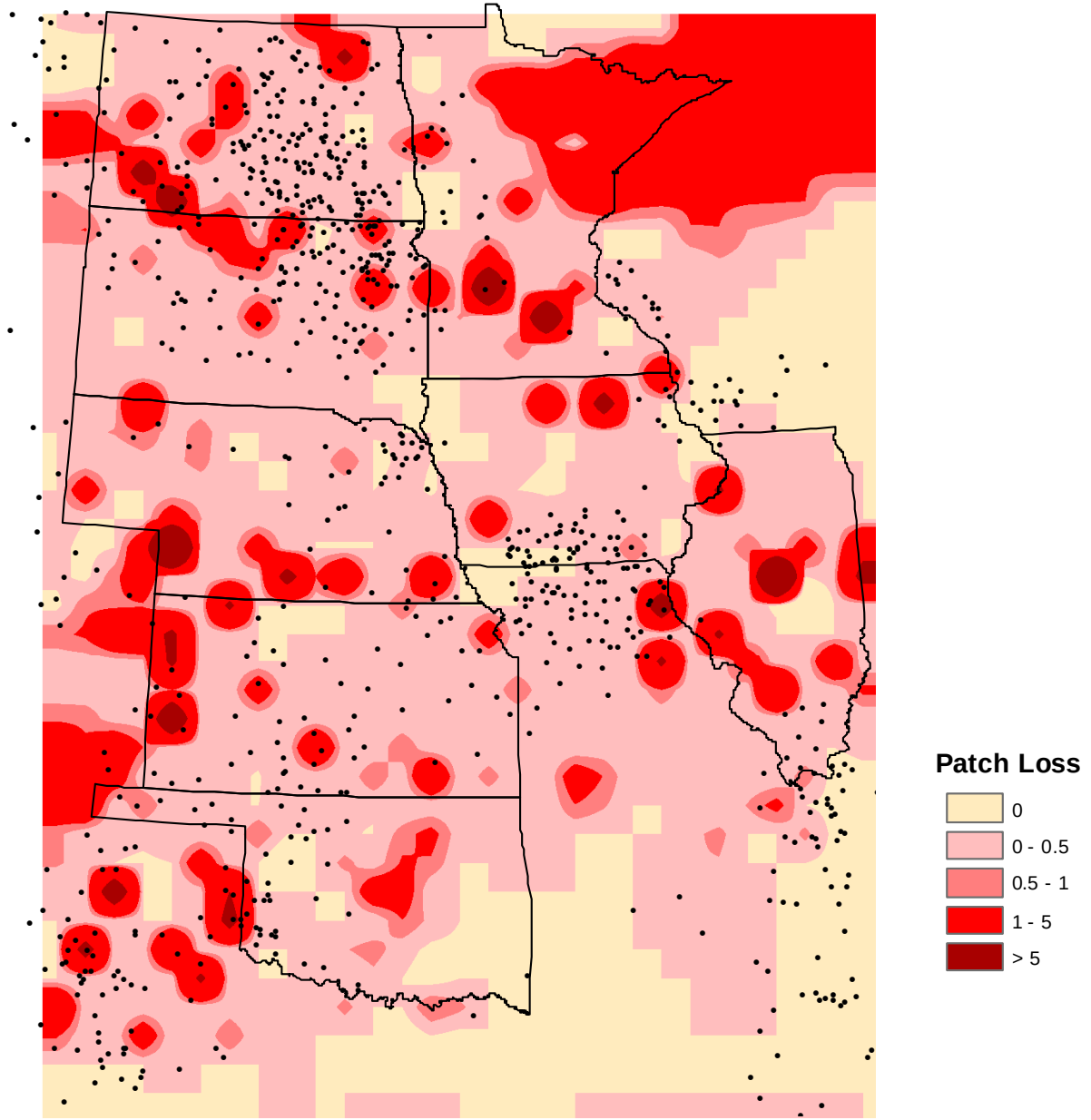


How will patch size/area change?

	Percent CRP general sign-up expiring	Number of Patches		% change		Average Patch Size (hectares)	
State		**Before**	**After**			**Before**	**After**
Illinois	5.1%	35.9	33.4	-7.0%		18.8	18.6
Iowa	9.0%	29	27.9	-3.8%		11	11
Kansas	4.1%	29.4	27.7	-5.8%		17.8	17.8
Minnesota	4.5%	21	19.6	-6.7%		26	24.8
Nebraska	10.8%	23.4	21.9	-6.4%		19.2	18.6
North Dakota	11.4%	21.2	19.8	-6.6%		35.4	34.2
Oklahoma	8.0%	15.6	14.5	-7.1%		52.7	53.7
South Dakota	20.4%	16.3	14.7	-9.8%		28.9	26.9

How will patch size/area change?

- Used FRAGSTATS
- 10KM grid
- Sample size = 1/3 of all grid cells with CRP
- Simple IDW interpolation to create surface



Conclusions

- Regional differences are present
- Some encouraging new about HEL
- Productivity less important
- Buffer profile shows little difference
- Some variation in patch loss, but patch size seems steady
- But…