

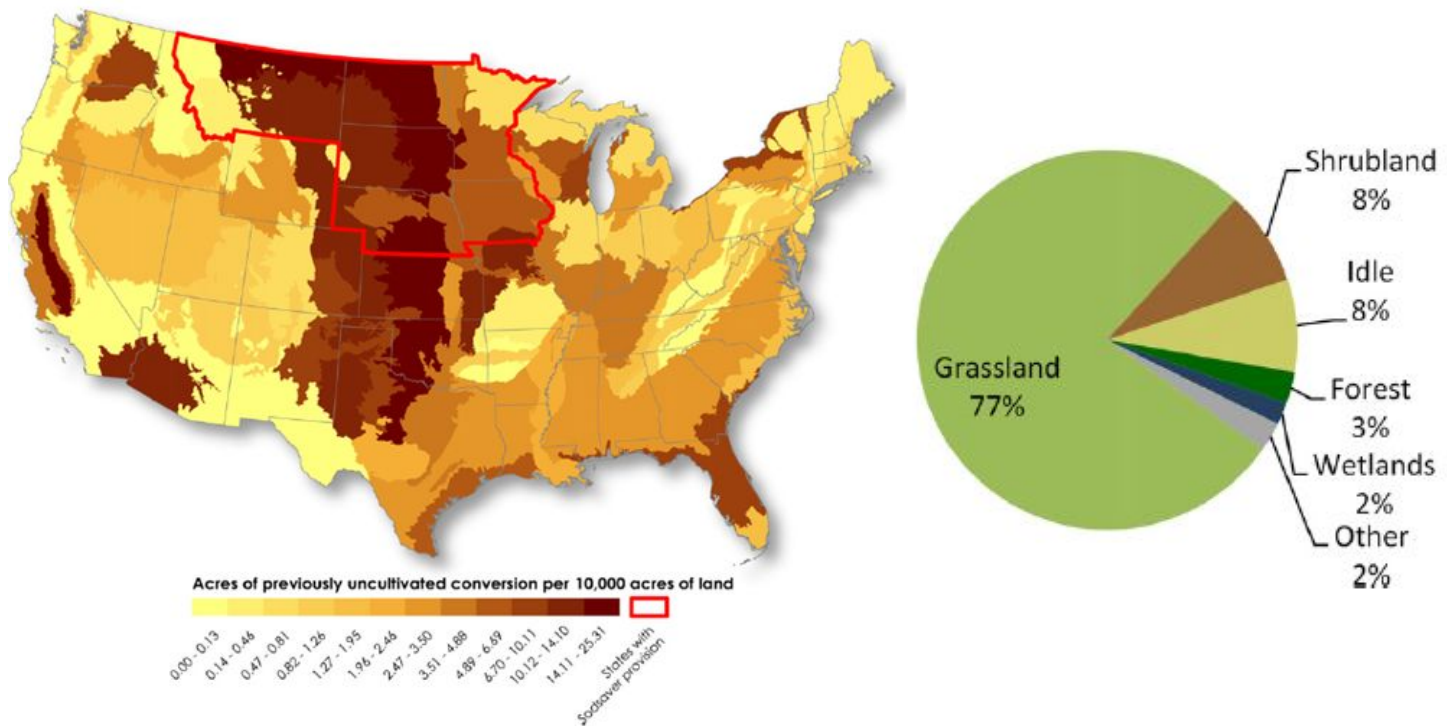
Petition to EPA to revise its “aggregate compliance” approach and to prevent conversion of native grassland under the Renewable Fuel Standard

Submitted by: Earthjustice and Clean Air Task Force

On behalf of: National Wildlife Federation and chapters, ActionAid, American Bird Conservancy, Environmental Integrity Project, Hoosier Environmental Council, Mighty Earth, Sierra Club, Union of Concerned Scientists, Wild Idea Buffalo Co.

QUICK FACTS

- From 2008 to 2012, between 4 to 7.8 million acres of grassland, wetlands, forests, and pastures were converted to cropland (EPA Second Triennial Report).
 - Most of this conversion occurred in the Western Corn Belt states.
 - **1.6 million acres** of long-term, native grasslands have been converted to cropland during this time.¹
- Growing feedstock on former grasslands leads to significant **greenhouse gas emissions**:
 - The conversion of **1.6 million acres** of grassland to corn crops emits as much CO₂ as **22 coal-fired power plants** or **18 million cars**.
 - It will take over **90 years** for ethanol use to neutralize this “carbon debt.”²
- Growing corn on converted land would require **billions of gallons** of water for irrigation from drought-stricken regions.

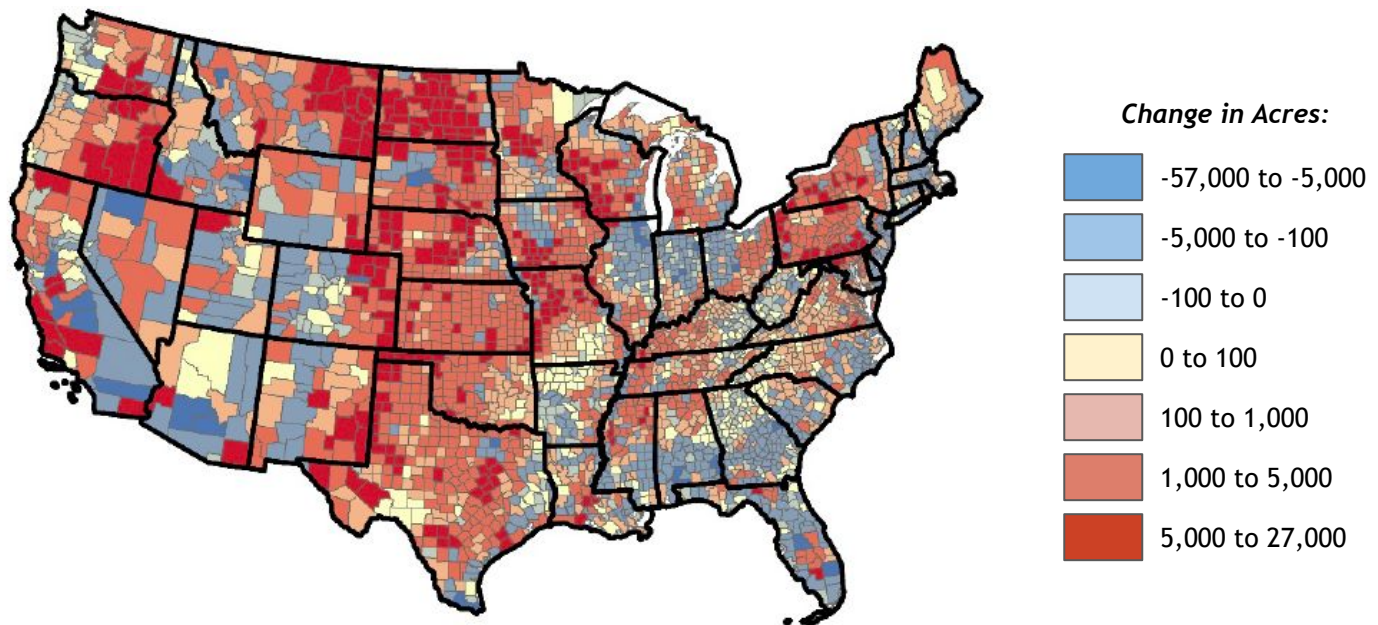


Map of 2008 to 2012 conversion to cropland from land that had not previously been cultivated for agriculture (cropland or pasture), confirmed back to the 1970's. Display units show the average number of converted acres per 10,000 acres of total land within each EPA Ecoregion.

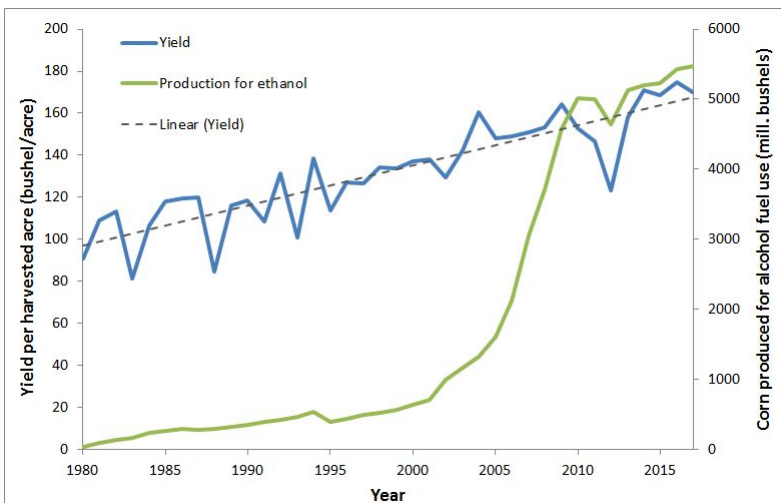
Figure from Lark et al., 2015.

Types of land converted to crop production, as percentage of 7.3 million acres total. Grasslands were the most common land cover to be converted to cropland, followed by shrub and 10+ year idle land.

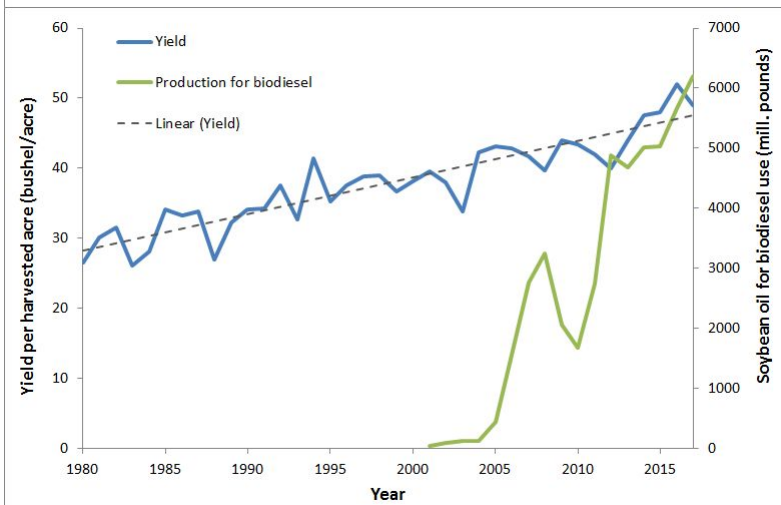
Figure from Lark et al., 2015.



Map of the difference in cropland coverage between 2002 and 2012 at the county level. Display units in legend are in acres; red represents conversion to active cropland, and blue represents a loss of cropland. Data from the USGS U.S. Conterminous Wall-to-Wall Anthropogenic Land Use Trends (NWALT), 1974-2012 report. *Figure from EPA, 2018. Biofuels and the Environment Second Triennial Report to Congress.*



The exponential increase in corn produced for ethanol surpasses the steady improvement of yield between 1980 and 2017. Note: severe drought in 2012 lead to a sharp decline in yields and harvest. Data from USDA ERS, Feed Grains Database.



The exponential increase in soybean oil used for biodiesel surpasses the steady improvement of yield between 1980 and 2017. Data from USDA ERS, Oil Crops Yearbook. USDA does not have data for soybean oil use prior to 2002.

¹Lark, T.J., Salmon, J.M. and Gibbs, H.K., 2015. Cropland expansion outpaces agricultural and biofuel policies in the United States. *Environmental Research Letters*, 10(4), p.044003.

²Fargione, J., Hill, J., Tilman, D., Polasky, S. and Hawthorne, P., 2008. Land clearing and the biofuel carbon debt. *Science*, 319(5867), pp.1235-1238.

Acreage of land converted to cropland from 2008 - 2012

State	Land uncultivated since the 1970's	Overall non-cropland, including existing Conservation Reserve Program land
US TOTAL	1,036,474	7,342,938
Alabama	9,675	83,626
Arizona	29,608	19,381
Arkansas	5,858	40,669
California	43,663	224,531
Colorado	36,855	311,717
Connecticut	273	214
Delaware	216	983
Florida	26,012	66,307
Georgia	15,099	121,239
Idaho	7,370	79,842
Illinois	8,850	137,926
Indiana	5,212	51,594
Iowa	25,515	360,600
Kansas	83,840	578,219
Kentucky	8,819	145,100
Louisiana	10,621	57,191
Maine	465	3,812
Maryland	1,137	9,696
Massachusetts	350	729
Michigan	5,561	85,682
Minnesota	22,636	265,184
Mississippi	9,500	65,945
Missouri	25,009	411,823
Montana	93,879	190,205
Nebraska	65,323	320,047

Source: Lark, T.J., Salmon, J.M. and Gibbs, H.K., 2015. Cropland expansion outpaces agricultural and biofuel policies in the United States. Environmental Research Letters, 10(4).

Acreege of land converted to cropland from 2008 - 2012

State	Land uncultivated since the 1970's	Overall non-cropland, including exiting Conservation Reserve Program land
Nevada	10,525	21,670
New Hampshire	205	470
New Jersey	340	2,760
New Mexico	29,355	92,864
New York	12,383	162,640
North Carolina	7,154	48,798
North Dakota	81,641	521,283
Ohio	4,140	70,836
Oklahoma	55,932	299,682
Oregon	10,449	66,211
Pennsylvania	3,814	84,082
Rhode Island	67	N/A
South Carolina	6,226	11,467
South Dakota	81,627	724,357
Tennessee	8,023	85,882
Texas	105,945	898,882
Utah	8,173	110,423
Vermont	970	6,497
Virginia	5,205	49,817
Washington	15,681	134,649
West Virginia	1,368	4,794
Wisconsin	14,044	209,004
Wyoming	31,861	103,608

Source: Lark, T.J., Salmon, J.M. and Gibbs, H.K., 2015. Cropland expansion outpaces agricultural and biofuel policies in the United States. Environmental Research Letters, 10(4).