

## CORN ETHANOL MANDATE: ENVIRONMENTAL COSTS

### Corn ethanol dirties air

- Published studies and air modeling indicate that overall production and use of ethanol results in higher ozone and particulate matter pollution than gasoline.<sup>1</sup>
- Burning ethanol at concentrations higher than ten percent can increase emissions of certain air pollutants such as acetaldehyde and other toxicants linked to childhood asthma and other respiratory illnesses.<sup>2</sup>
- The life-cycle emissions of major air pollutants including sulfur oxides and ammonia are higher for corn ethanol than for gasoline.<sup>3</sup>

### Corn ethanol pollutes water

- Mandating corn ethanol use has encouraged farmers to plow up millions of acres of grasslands, intensifying the use of fertilizers that wash into rivers and form algal “dead zones” lethal to marine life.
- Growing corn for ethanol requires huge amounts of farm chemicals that pollute nearby waterways. Corn has the highest fertilizer use per acre of any biofuel feedstock.
- The corn ethanol mandate forces farmers to shift from crop rotations to continuous corn production, resulting in greater farm runoff and deterioration of surface and groundwater quality.<sup>4</sup>

### Corn ethanol increases greenhouse gas emissions and destroys wildlife habitat

- Between 2008 and 2011, more than 23 million acres of grasslands and wetlands – an area the size of Indiana – were plowed under to grow corn and soybeans, commonly used feedstocks in biofuels production; much of this land serves as critical habitat for migratory birds and important wildlife species already at risk.<sup>5</sup>
- Conversion of native ecosystems to grow corn for ethanol releases large amounts of greenhouse gasses into the atmosphere, according to the National Academy of Sciences.<sup>6</sup>
- Corn cultivation and ethanol production requires fossil fuels including coal, diesel, gasoline and natural gas. These fuels emit volatile organic compounds harmful to human health and the environment.

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<sup>1</sup> National Research Council. *Renewable Fuel Standard: Potential Economic and Environmental Effects of U.S. Biofuel Policy*. The National Academies Press, 2011. p.10

<sup>2</sup> Naidenko, Olga. *Ethanol-Gasoline Fuel Blends May Cause Human Health Risks and Engine Issues*. Environmental Working Group, 2009. p. 5

<sup>3</sup> National Research Council, *op cit.*, p. 225.

<sup>4</sup> Malcom, Scott A., Aillery, Marcel & Weinberg, Marca. *Ethanol and a Changing Agricultural Landscape*. United States Department of Agriculture, 2009. p.26

<sup>5</sup> Faber, Scott., Rundquist, Soren., & Male, Tim. *Plowed Under*. Environmental Working Group, 2012.

<sup>6</sup> National Research Council, *op cit.*, p. 211.