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U.S. Farm Bill: Balancing Hypoxia-Related Interests

Abstract

This case explores the growing hypoxia problem in the Gulf of Mexico dead zone and its connection to corn subsidies, ethanol production, and chemicals used in agriculture through the lens of interest groups weighing in on the 2013 Farm Bill. Hypoxia (oxygen depletion) occurs when the concentration of dissolved oxygen is too low to sustain aquatic organisms. It is caused by nitrogen and phosphates that come from fertilizers and deposition of atmospheric nitrogen.¹ Hypoxia in shallow coastal and estuarine areas appears to be increasing as a result of human activities.² With nitrogen concentrations nearly doubling since the 1950s, the Gulf of Mexico dead zone has been caused mainly by nitrogen and phosphorous runoff from the Mississippi Atchafalaya River basin (MARB). Environmentalists, organic farmers, fisheries and others were looking for changes. In its remarks to the Hypoxia Task Force, the Environmental Working Group (EWG) said:

"We should be approaching the issue of Gulf hypoxia and Mississippi River water quality with a growing sense of urgency. The demands we are placing on our land, water, and watersheds are increasing. A human population growing in both numbers and wealth is demanding more food and more resource intensive types of food from a limited supply of land and water. Now we are also looking to our land, water, and watersheds to produce energy as well as food and fiber. Production of biomass and crops for biofuels and biomass energy at the scale anticipated in US public policy will put more pressure on land and water resources. We will need to face this increasing pressure on our most basic natural resources at a time when global warming and water scarcity will make that challenge much more difficult. A report from the Soil and Water Conservation Society, for example, found that rates of soil erosion and runoff from cropland could double as the frequency of severe storms increases as the planet warms."

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This case was developed under the supervision of Greg Bond, adjunct professor of Environmental Health Sciences and Fellows Program Officer for the Dow Sustainability Fellows Program; Manja Holland, Research Programs Officer; and Don Scavia, Director, of the University of Michigan Graham Sustainability Institute at the University of Michigan by Research Associate Mary Lowe of the William Davidson Institute. This case was created as a basis for class discussion rather than to illustrate the effective or ineffective handling of a situation. Senate staffer Sally Davis and Senator Jane Jordan are fictional characters.