

CLEAN DRINKING WATER AND THE CONSERVATION TITLE

The Conservation Title of the Farm Bill is critical to protecting drinking water. Water that runs off fields treated with chemical fertilizer and manure is loaded with nitrogen and phosphorus, nutrients that inevitably end up in rivers, streams and lakes and set off a cascade of harmful consequences that contaminate drinking water for millions of Americans.

This nutrient overload increases the challenges that water utilities face in producing clean, safe drinking water.

Nitrate, the most common form of nitrogen in surface and groundwater, is directly toxic to human health. Infants who drink water with high nitrate levels can develop an acute, life-threatening blood disorder called blue baby syndrome. High nitrate levels in water can also affect thyroid function in adults and increase the risk of thyroid cancer.¹ Thyroid dysfunction during pregnancy has been linked to developmental problems in newborns, including premature birth and low birth weight. Today, many private wells and community water systems in agricultural regions exceed the legal limit for nitrate. Between 1998 and 2005, 2,973 public water systems serving more than 16 million people had nitrate levels above the legal limit at times.²

Toxic blooms of algae, including the especially dangerous cyanobacteria (blue-green algae), erupt in water overloaded with nutrients. Toxins produced by cyanobacteria can harm the nervous system, cause stomach and intestinal illness and kidney disease, trigger allergic responses and damage the liver. They may lead to liver cancer and promote tumor growth.³ Toxins released by cyanobacteria also cause skin rashes, eye irritation and respiratory symptoms. Cyanotoxins that become airborne and are inhaled can cause trouble breathing.⁴ Harmful algal blooms and cyanotoxin poisonings, primarily from recreational exposure, have been reported in at least 36 states.⁵ Cyanobacteria blooms are an especially serious problem for water utilities that depend on surface water, particularly reservoirs and lakes. EPA's 2010 National Lake Assessment, the first nationwide study of cyanobacteria and cyanotoxins in lakes, found that a third contained microcystin, a toxin produced by *Microcystis* group of cyanobacteria.⁶

Disinfecting source water produces toxic byproducts, especially when it's overloaded with algae. Every disinfectant in use today – chlorine, ozone, chlorine dioxide and chloramines – produces toxic byproducts that increase the risk of cancer, but legal limits have been set for only two types. Between 2004 and 2008, 2,888 water systems serving nearly 12 million people had levels of disinfection byproducts at or above three-quarters of the legal limit, placing water drinkers in these communities at risk from these carcinogenic byproducts.⁷

Water utilities face steep costs to remove agricultural pollutants from source water. USDA economists estimate that removing nitrate alone from drinking water costs more than \$4.8 billion a year.⁸ The cost of dealing with algal blooms is particularly daunting.

A strong conservation title in the farm bill is the most important federal tool for protecting source water.

When Congress wrote “conservation compliance” provisions into the 1985 farm bill, it created an historic compact between farmers and taxpayers. In return for generous taxpayer support, growers agreed to apply simple practices to prevent polluted runoff, limit soil erosion and protect wetlands.

Since then, the conservation title has provided funding and authority for critical programs that help farmers with the costs of applying practices that reduce polluted runoff from their cropland and ranches.

Today, the compact and the conservation title's programs are under threat. Some legislators are proposing to replace traditional farm subsidies with a costly and complex mix of so-called risk management programs that will guarantee farm business income. Congress faces a critical decision: Will the 2012 farm bill bring these new farm business subsidies under the conservation compact? Or will the decades-old compact be broken?

Some lawmakers are also proposing deep funding cuts for conservation programs, which have already been cut every year since 2002.

Protecting source water should be a high priority when the farm bill is reauthorized. Congress must renew the conservation compact and provide full funding for conservation programs.

¹ Aschebrook-Kilfoy B, Heltshe SL, Nuckols JR, Sabra MM, et al. 2012. Modeled nitrate levels in well water supplies and prevalence of abnormal thyroid conditions among the Old Order Amish in Pennsylvania. *Environ Health* 11(1): 6.

² U.S. EPA. 2010. The Analysis of Regulated Contaminant Occurrence Data from Public Water Systems in Support of the Second Six-Year Review of National Primary Drinking Water Regulations EPA-815-B-09-006.

³ Falconer IR. 2005. *Cyanobacterial Toxins of Drinking Water Supplies*. New York: CRC Press.

⁴ Backer LC, McNeel SV, Barber T, Kirkpatrick B, Williams C, Irvin M, et al. 2010. Recreational exposure to microcystins during algal blooms in two California lakes. *Toxicon* 55(5): 909-21.

⁵ Graham JL, Loftin KA, Kamman N. 2009. Monitoring Recreational Freshwaters. *LakeLine* 29: 18-24.

⁶ U.S. EPA. 2010. National Lakes Assessment: A Collaborative Survey of the Nation's Lakes. Available: http://water.epa.gov/type/lakes/lakessurvey_index.cfm.

⁷ EWG's National Drinking Water Database. Available: <http://www.ewg.org/tap-water/home>

⁸ Ribaud M, Delgado J, Hansen L, Livingston M, Mosheim R, Williamson J. 2011. Nitrogen in Agricultural Systems: Implications for Conservation Policy. USDA Economic Research Report No. (ERR-127).