

Balancing Well Field Protection and Economic Development

Regional Program Safeguards Groundwater and Economy in Dayton, Ohio Area

By Lee Drummond, Dayton Area Groundwater Guardian Team

More than 90% of the 280+ business sites in Dayton, Ohio's Well Field Protection Area (WFPA) are occupied. The statistics are similar for the other jurisdictions working with Dayton to protect the region's drinking water source - Harrison Township, Huber Heights, Riverside, Vandalia, and Wright-Patterson Air Force Base. Before Dayton enacted its Well Field Protection Program (WFPP) in August 1988, naysayers predicted that the program would cause the loss of thousands of jobs and millions of dollars. Instead, the area has maintained economic vitality, and the WFPP has helped improve Dayton's excellent drinking water. How?

Regulating Real Threats

To protect the drinking water source for its 450,000 consumers, Dayton's WFPP focuses on the chemicals that could contaminate the groundwater. Any chemical that is a health threat to humans is termed a Regulated Substance. This broad definition includes all such chemicals when they are first produced, rather than when they are formally regulated.

When the WFPP began, businesses were required to report their all-time maximum inventory of Regulated Substances. The businesses themselves determined this amount, not the jurisdictions. Each initial report established the maximum inventory of Regulated Substances for its particular site. New businesses with over 160 pounds were

prohibited, but since overlay zoning was used, existing uses with larger maximum inventories were grandfathered. If a business moves away, the site's new occupant can only have equal to or less than the site's maximum inventory. In this way, the total maximum inventories for the entire WFPA was at its highest when the program began, and is lessening the threat to groundwater over time from the chemical inventories stored above it.

Regional Cooperation

Dayton's WFPA includes 6,280 acres in six jurisdictions. The five surrounding Dayton encompass 58% of the land and have over 300 business sites, some as near to a well field as the width of a railroad or river. Dayton approached the other jurisdictions after enacting its own WFPP. As in Dayton, there were intense discussions, and new issues raised and addressed. Ordinances paralleling Dayton's were enacted in Harrison Township in 1989 and in Riverside, Vandalia and Huber Heights in 1990. Dayton and Wright-Patterson Air Force Base entered into a Memorandum of Understanding in 1990, the first known agreement between a local government and a Department of Defense facility to protect local water supplies.

Rapidly Reducing Chemical Inventories

Dayton's WFPP includes a fund generated from a small charge on water bills. Since

businesses are not required to reduce the grandfathered maximum inventories, the fund has been used to encourage them to willingly sell off their rights to those inventories. The owner of any WFPA business can receive a grant to remove 97% or more of the maximum inventory. The larger the percentage removed, the larger the amount of the grant. The owner must agree to a deed restriction limiting the site's maximum inventory to the new lower amount in perpetuity. In this way, 17,269,517 pounds of Regulated Substances have been removed from 24 sites in the WFPA at a cost of \$4,770,646. At \$.276 per pound, this cost of prevention is many times less than the cost of remediation.

Improving The Excellent

Dayton's high quality drinking water continues to meet all federal standards. There have been traces of some industrial contaminants detected, but have been within the permitted range. The WFPP includes efforts to locate and clean up areas of contaminated groundwater near drinking water wells. Whether by Dayton or by the responsible parties, some management action has been taken at the 11 most critical contamination sites, and the search for a source is ongoing at a twelfth location. As a result, the drinking water quality is improving. In March,



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1995 the water quality section manager of the Ohio Environmental Protection Agency said "The chemicals are so far below levels of concern that the chances of them being a health threat are small." In 2004, two of the volatile industrial contaminants present in prior years were not detected in any drinking water sample.

Groundwater Guardians for Ten Years

Dayton's WFPP entered the Groundwater Guardian program in 1995. The WFPP needed to improve its education and outreach efforts, and received assistance toward that goal. In 1996, Dayton sent a representative to Nebraska's Children's Groundwater Festival to learn about its organization. From 1997 to the present Dayton has hosted its own festival, educating over 20,000 children. Dayton began a quarterly newsletter in 1996 for businesses, property owners and other parties affected by the WFPP. Other education programs have included workshops on topics like pollution prevention and accessing the WFPP fund for risk reduction projects.♦