Effect of pesticide on lake erie

Titus Rock Manickam Order No. 337865 19 November 2009 EFFECT OF PESTICIDE ON LAKE ERIE Introduction Indiscriminate spraying of pesticides has grossly contaminated the waters of Lake Erie. " Between March 1996 and February 1998, 305 samples were collected from 10 streams in the basin. Every sample contained at least one pesticide, and most contained mixtures of several pesticides. Some samples contained a mixture of 18 pesticide compounds, which is among the highest number of pesticides detected in a sample nationally" (Water Quality in Lake Erie).

" Overall, 30 different pesticides were detected within the basin." http://209. 85. 129. 132/searchq= cache: odCCckGdMzUJ: pubs. usgs. gov/circ/circ1203/major_findings. htm+Between+March+1996+and+February+1998,+305+samples+were+collected+from+10+streams+in+the+basin&cd= 1&hl= ru&ct= clnk&gl= ua

This poses grave dangers to the health of man and flora and fauna in the region and calls for immediate remedial actions to save the area from further contamination and disaster.

Causes and effects

Pesticides are sprayed aerially on crops and water to protect them from pests that chew up the crops and contaminate the water. However, the aerial spraying also causes chemicals used in the pesticides to spread in the atmosphere and water bodies thus contaminating the environment (G. Chesters and J. G. Konrad).

Spraying of pesticides temperature-specific and there are certain conditions when they must be done. Ideally, pesticides are sprayed when there are little or no wind and when a temperature inversion exists between 3 and 10 meters above the ground. The lack of wind movement prevents the

pesticides from spreading around. However, such conditions rarely exist and pesticides are spread around inside and beyond the region pesticides are sprayed (G. Chesters and J. G. Konrad).

Lake Erie is affected by " five most heavily applied agricultural pesticides. They are metolachlor, atrazine, cyanazine, acetochlor and alachlor." The lake water has heavy concentration of these chemicals. Unless treated appropriately, use of water from this lake can cause damage to human and animal lives in the area. Even when treated with carbon, the levels of these chemicals showed unusually high presence in the lake water. This shows the level of contamination the water has reached.

" In the 1960s, Lake Erie was dead with excessive growth and oxygen-depleting effects of this decay. By 1971, the major sources of phosphorus to the lake were sewage, laundry detergents and fertilizers" (Water Quality in Lake Erie). http://209. 85. 129. 132/searchq= cache: odCCckGdMzUJ: pubs. usgs. gov/circ/circ1203/major_findings. htm+the+major+sources+of+phosphorus+to+the+lake+were+sewage, +laundry+detergents,+and+fertilizers.&cd= 6&hl= ru&ct= clnk&client= opera

Conclusion

Subsequent action taken to reduce the contamination appears insufficient as the level of contamination in the lake remains high. Efforts must intensify to reduce contamination by limiting the flow of phosphorus into the lake. Other means must be found to discharge sewage, laundry detergents and fertilizers. Without careful and concentrated efforts, the contamination will continue to remain high.

Sources:

G. Chesters and J. G. Konrad, Effects of Pesticide Usage on Water Quality, http://www. jstor. org/pss/1295710

Water Quality in Lake Erie, http://pubs. usgs. gov/circ/circ1203/major_findings. htm