



Water Quality

A Closer Look

ALABAMA COOPERATIVE EXTENSION SYSTEM / AUBURN UNIVERSITY, ALABAMA 36849-5612

WILL OUR WATER ALWAYS BE SAFE?

Abbey's dad is a civil engineer. His company is sending him to a small city in Madero to advise the city government. The water supply in that city is unsafe to use.

Abbey's dad needs a series of shots before he travels to Madero to help him ward off some dangerous diseases.

AND I WILL BRUSH MY TEETH WITH BOTTLED WATER, BECAUSE EVEN SHOTS WILL NOT KEEP ME FREE FROM BACTERIA IN A POLLUTED WATER SUPPLY.

WHAT MAKES WATER POLLUTED, DAD?

ABBEY, THAT WOULD BE A GOOD SCIENCE PROJECT! WHY DON'T YOU DO SOME RESEARCH WHILE I AM AWAY? YOU MAY WIN A FIRST PLACE AT YOUR SCHOOL SCIENCE RALLY WITH THAT TOPIC.



LEAFLET YHE-230



Abbey went to the library that very day. She found a lot of information about water.

Abbey's Note Cards

IN ALABAMA, THE WATER IS VERY SAFE TO DRINK. AND, THERE IS A LOT OF WATER AVAILABLE:

- 12 MAJOR RIVER SYSTEMS
- 40,600 MILES OF RIVERS AND STREAMS
- 348,826 ACRES OF ESTUARIES (AN ARM OF THE GULF OF MEXICO THAT EXTENDS INLAND TO MEET THE MOUTH OF A RIVER.)
- 50 MILES OF SEASHORE.
- 10 PERCENT OF ALL THE WATER IN THE UNITED STATES!!! pp. 40-45.



"AQUIFERS ARE WATER-BEARING ROCK, ROCK FORMATION, OR A GROUP OF ROCK FORMATIONS." AMER. HER. DICTIONARY.



"EVERY DAY, THROUGHOUT THE WORLD, WE USE 90 BILLION GALLONS OF WATER."



"ONLY ABOUT 1 PERCENT OF ALL THE WATER IN THE WORLD IS AVAILABLE FOR OUR USE. BUT 30 TO 60 QUADRILLION GALLONS OF THIS WATER - OR 90 PERCENT OF WHAT WE USE - IS GROUND WATER, WHICH IS STORED IN LAKES AND UNDERGROUND AQUIFERS." pp. 20-21.

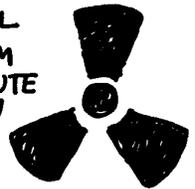


IN THE UNITED STATES, THE PRODUCTS WE USE DAILY ARE THE GREATEST SOURCE OF NON-POINT SOURCE POLLUTION: GARDEN PESTICIDES, PAINTING PRODUCTS, BLEACHES, OVEN CLEANER, DRAIN OPENERS, GREASE, ALCOHOL, DETERGENTS, FURNITURE POLISH, COSMETICS, WASTE PETROLEUM PRODUCTS, AUTO EXHAUST, TIRE RUBBER, DEAD BATTERIES, PCB'S FROM DISCARDED TVs, AGRICULTURAL AND FORESTRY PRACTICES, AND CONSTRUCTION SITES.

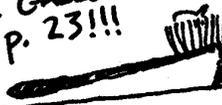


SAFE WATER FOR GOOD HEALTH, P. 19

"IN SOME REGIONS, NATURAL RADIOACTIVE ELEMENTS FROM ROCKS AND SOILS MAY POLLUTE THE WATER. THE POLLUTION CAN BE FATAL." p. 46.



"IN THE UNITED STATES, EACH OF US USES BETWEEN 100 AND 170 GALLONS OF WATER A DAY, INCLUDING 1 TO 2 GALLONS JUST TO BRUSH OUR TEETH." p. 23!!!



"...70 PERCENT OF THE EARTH'S SURFACE IS COVERED WITH WATER. SOME OF IT IS EVEN FROZEN IN THE POLAR ICE CAPS." p. 20.



"MANY DIFFERENT CONTAMINANTS (POLLUTANTS) CAN MAKE WATER UNSAFE TO USE. IN UNDERDEVELOPED COUNTRIES, THE WORST POLLUTANTS ARE BACTERIA AND VIRUSES CAUSED BY SEWAGE AND ANIMAL WASTES IN THE WATER. THAT CAN MAKE YOU VERT SICK." p. 46.



"WHAT HAPPENS IF YOU DRINK OR BRUSH YOUR TEETH WITH POLLUTED WATER? GIARDIASIS (je-ar-di-esis) STOMACH ACHES!!! - AMER. HER. DICTIONARY

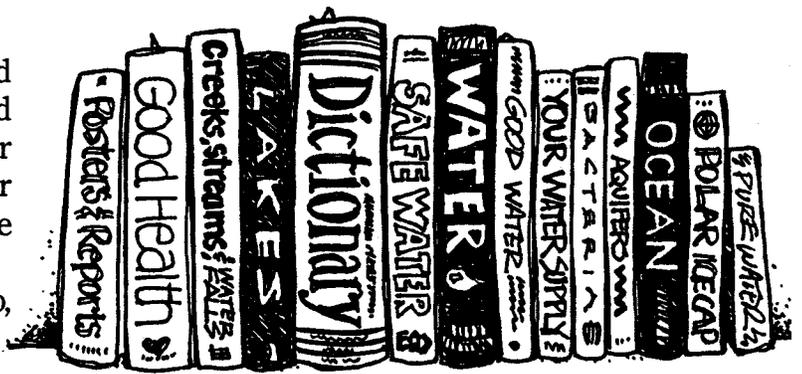


SAFE WATER

Abbey's Project

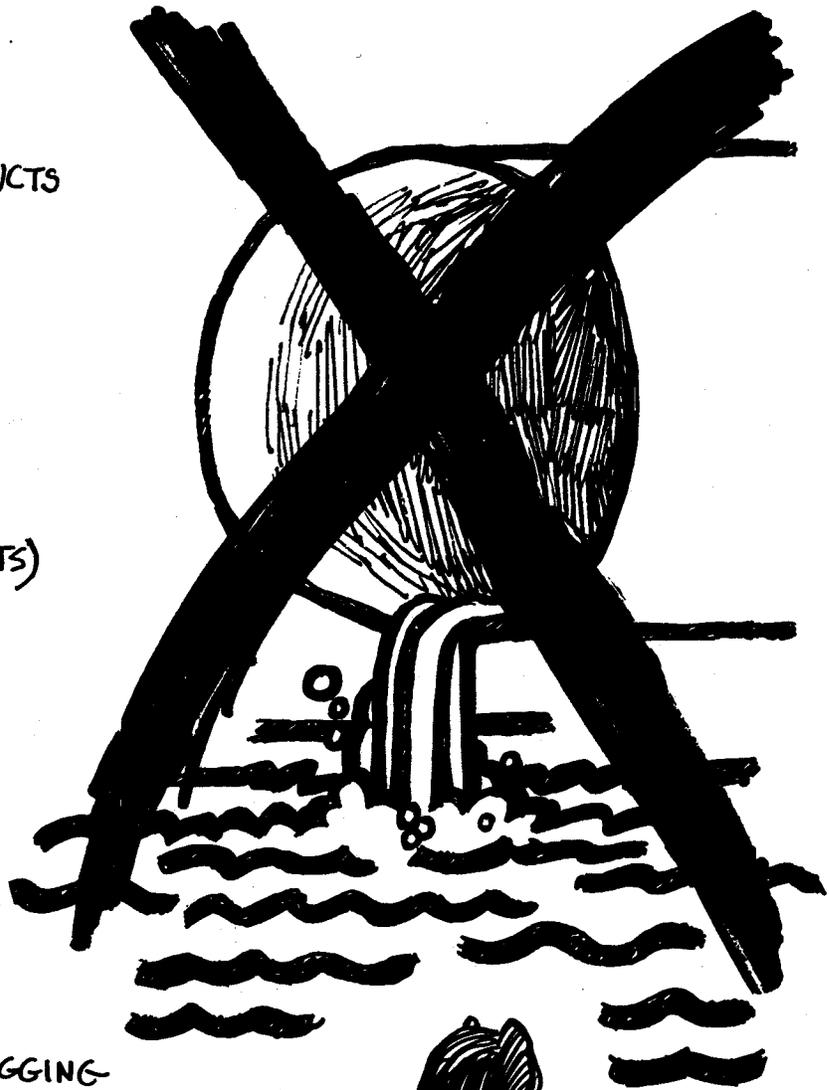
As Abbey worked on her project, she decided her main concern would be pollution of ground water, which is the water we drink and use in our houses. Sources of the pollutants in ground water are not always clear. This is called non-point source pollution.

By the time her dad returned from Madero, Abbey was making a poster for her project.



Origins of Non-Point Source Pollution

- URBAN RUN-OFF
 - AUTO EXHAUST
 - TIRE RUBBER
 - CHEMICAL SPILLS
 - WASTE PETROLEUM PRODUCTS
 - DEAD BATTERIES
- HOUSEHOLDS
 - GARDEN PESTICIDES
 - PAINTING PRODUCTS
 - BLEACHES
 - OVEN CLEANER
 - DRAIN OPENERS
 - PETROLEUM PRODUCTS
 - PCBs (IN DISCARDED TV SETS)
 - GREASE
 - ALCOHOL
 - DETERGENTS
 - FURNITURE POLISH
 - COSMETICS
- AGRICULTURAL PRACTICES
 - IRRIGATION
 - TILLAGE
 - ANIMAL WASTE MANAGEMENT
 - PESTICIDE USES
 - FERTILIZER APPLICATIONS
- FORESTRY PRACTICES
 - TIMBER HAVESTING AND LOGGING
 - ROAD BUILDING
 - PESTICIDE USE
- CONSTRUCTION SITES
 - SOIL EROSION
 - DUMPED BUILDING MATERIALS



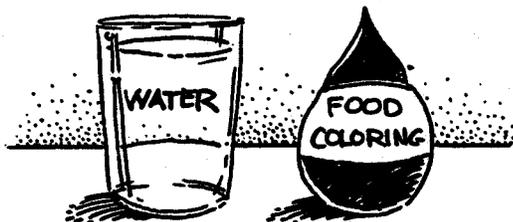
Abbey's Report

The pollution from a normal household appears to be quite important.

Therefore, we all have the potential to contribute to the non-point source pollution of our water. It is important that we remember how precious our water supply is and that we do what we can to protect it. We must remember that every time it rains and water falls to the earth it soaks into the ground or moves over the ground into creeks and streams. Those streams flow directly into larger bodies of water or they run down through openings in the surface of the earth into underground streams that become creeks or larger bodies of water. This will be the water that we will one day drink or use in some other way to enjoy life.



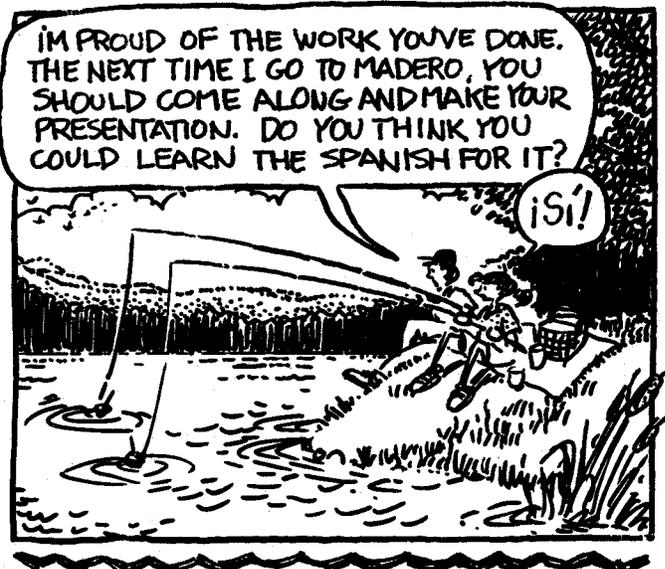
If we destroy our clean water by putting pollutants in it, we can't get any more. The only thing we could do is try to clean it up. This can be very, very costly. Let's look at an example. This glass contains clean water. If we add food coloring, the water becomes contaminated and it turns blue. Could this food coloring ever be removed from this water? Yes! If we evaporate the water and condense it, we can recapture the pure water. This isn't hard to do, but can you imagine how much it would cost to treat and purify an entire lake? Once water has been polluted, it can be costly—or sometimes even impossible—to purify it and make it usable again



As we look across our state we see the many different activities that affect the water as it drains from the land. We must realize that it's everyone's responsibility to find ways in which we can protect the quality of our precious water. Water quality is only one of the several environmental issues

facing us today that can be solved if each one of us would just decide to take it upon ourselves to do something and make the difference.

What can we do? Each of us must become more aware and concerned about the quality of our water. Take time to evaluate your practices around home to see if you are doing things that might jeopardize the quality of our water. Become more observant of your surrounding environment; observe nearby streams and rivers for pollution and report any changes in water quality to the local authorities. We must pull together, as a whole, working not against one another but with each other in order to preserve the quality of our water supply. Without everyone's help, the quality of our water in the future could be in jeopardy.



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