

MN DEPT OF NATURAL RESOURCES
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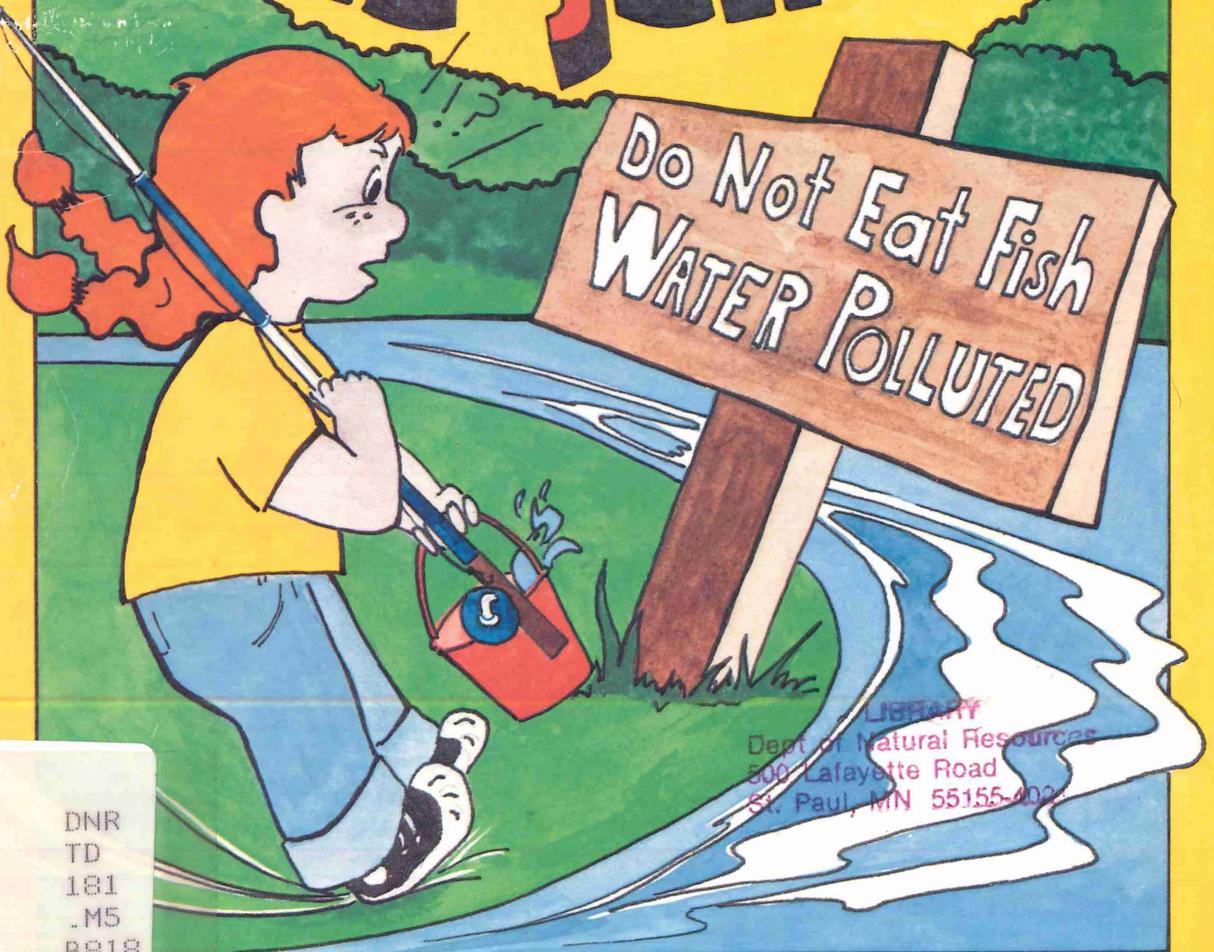
Brandl, Kathlee - When all the clean water is gone /



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When all the CLEAN WATER is gone



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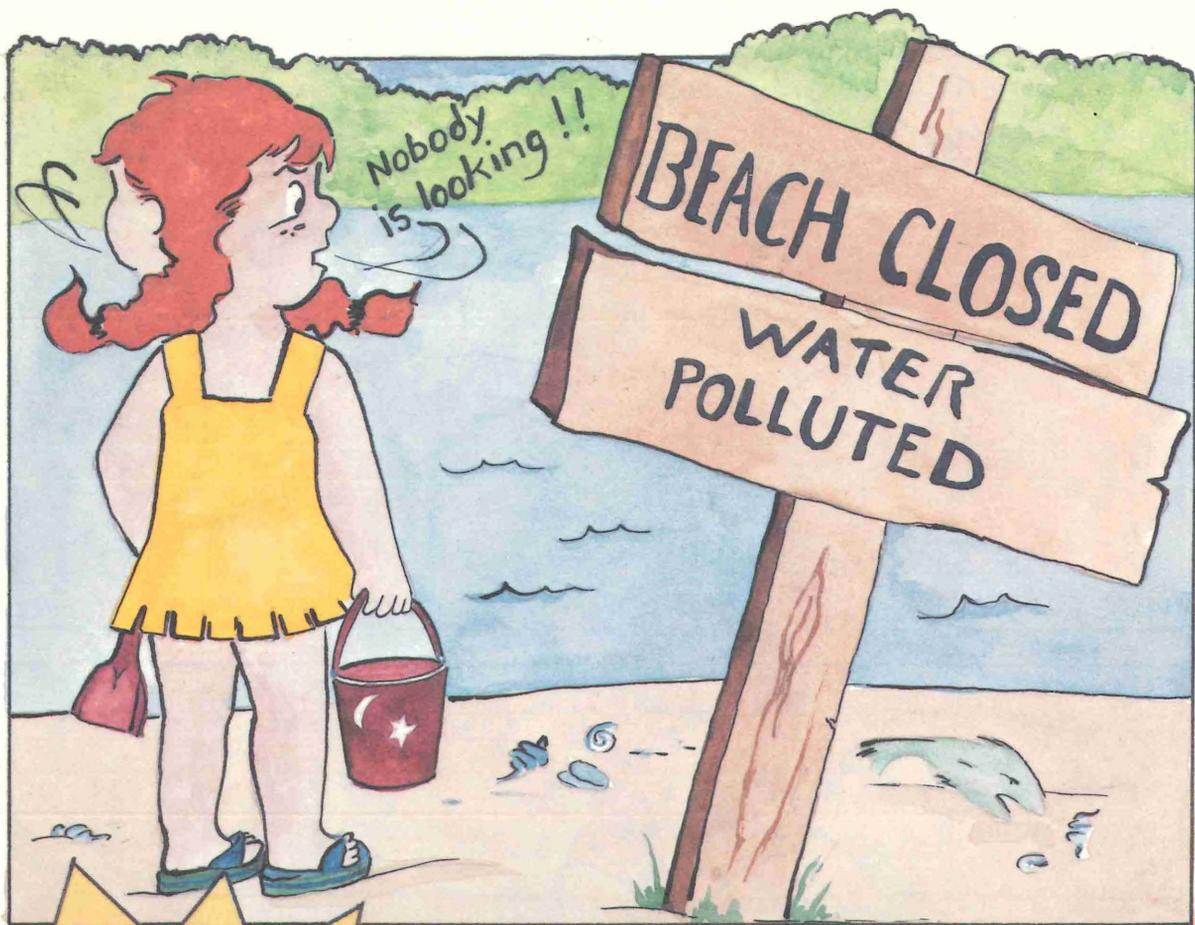
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This book was prepared by the Department of Natural Resources (DNR), Rivers Section, with special assistance from the Division of Waters.

Design and art by Kathleen Brandl
Text by Kathleen Brandl and Linda Watson

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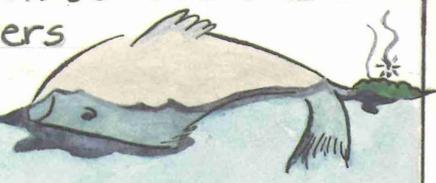


Every year pollution, unwise use and unwise development spoil more and more clean rivers and lakes and their bordering lands.

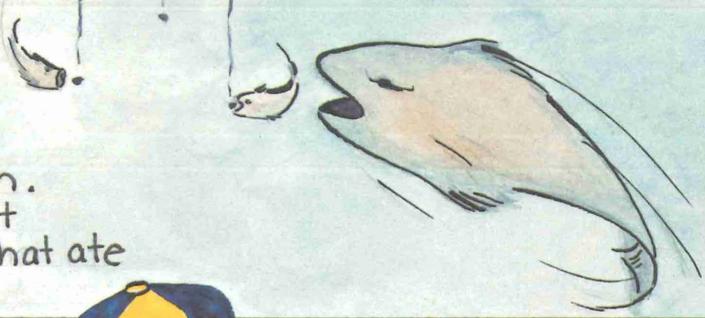


Problems caused by pollution and unwise use and development not only harm our waters and shorelands, but harm

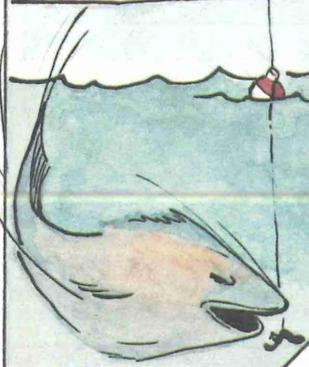
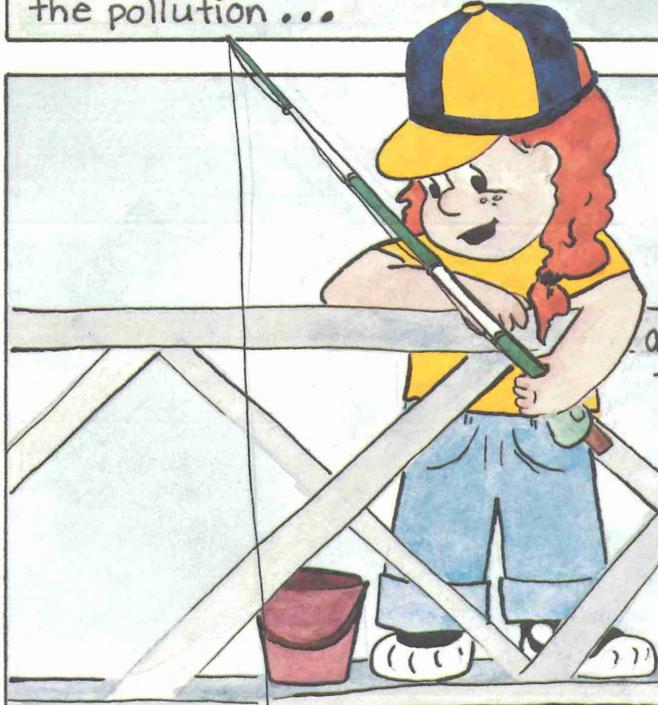
the animals that need them to live, and harm **YOU**.

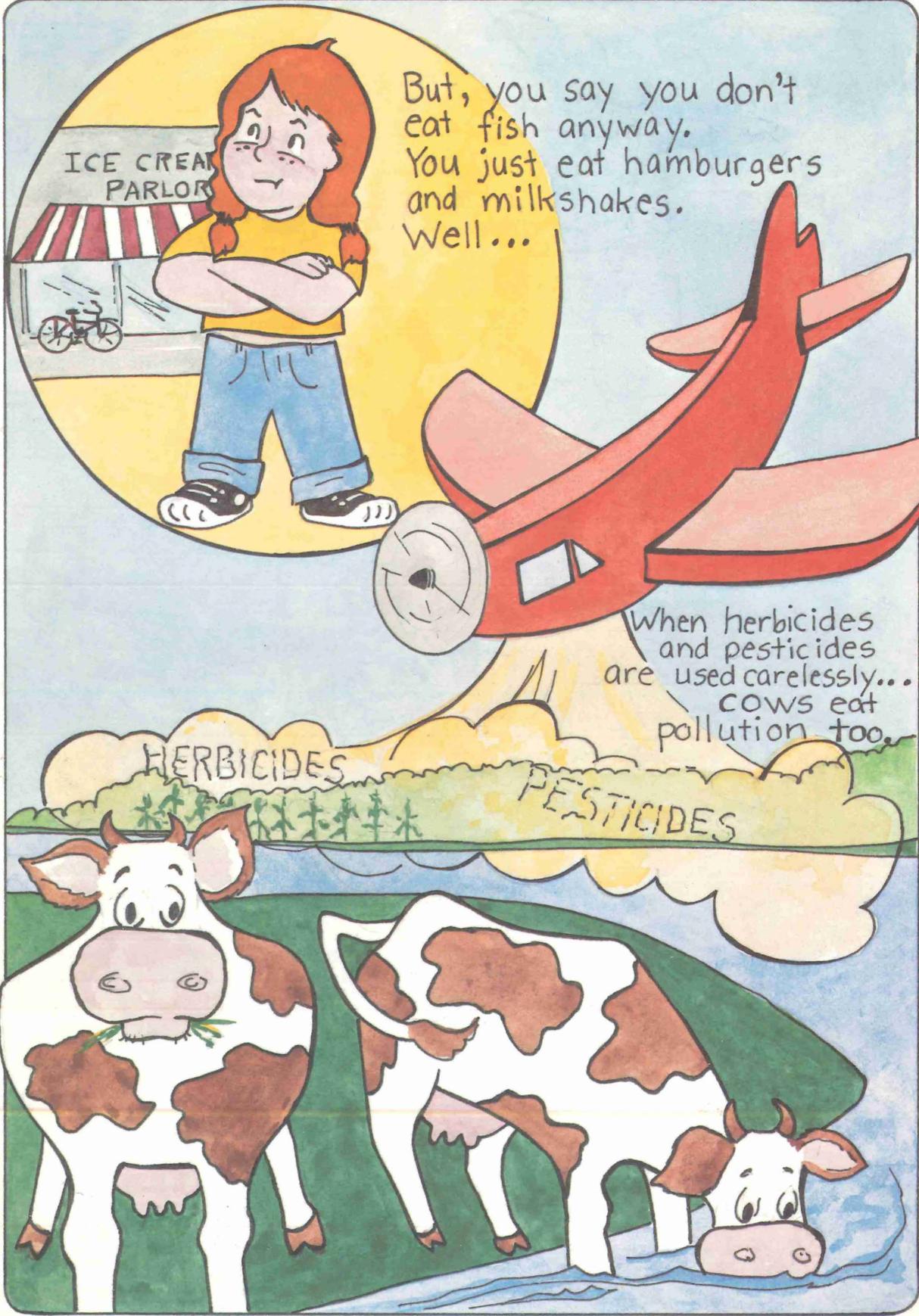


The little fish eat the pollution.
The big fish eat the little fish that ate the pollution...



and you eat the big fish that ate the little fish that ate the pollution.





ICE CREAM PARLOR

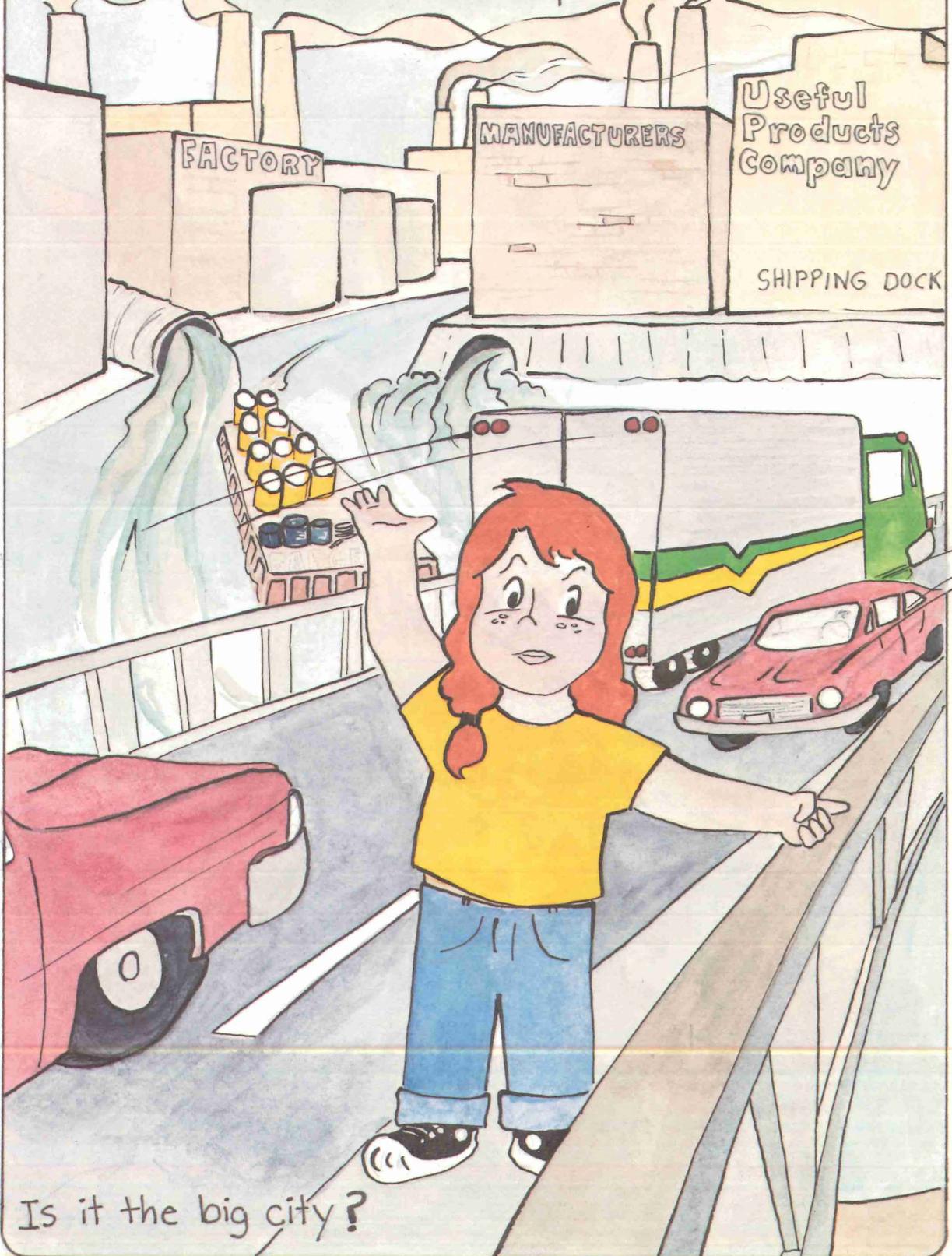
But, you say you don't eat fish anyway. You just eat hamburgers and milkshakes. Well...

When herbicides and pesticides are used carelessly... COWS eat pollution too.

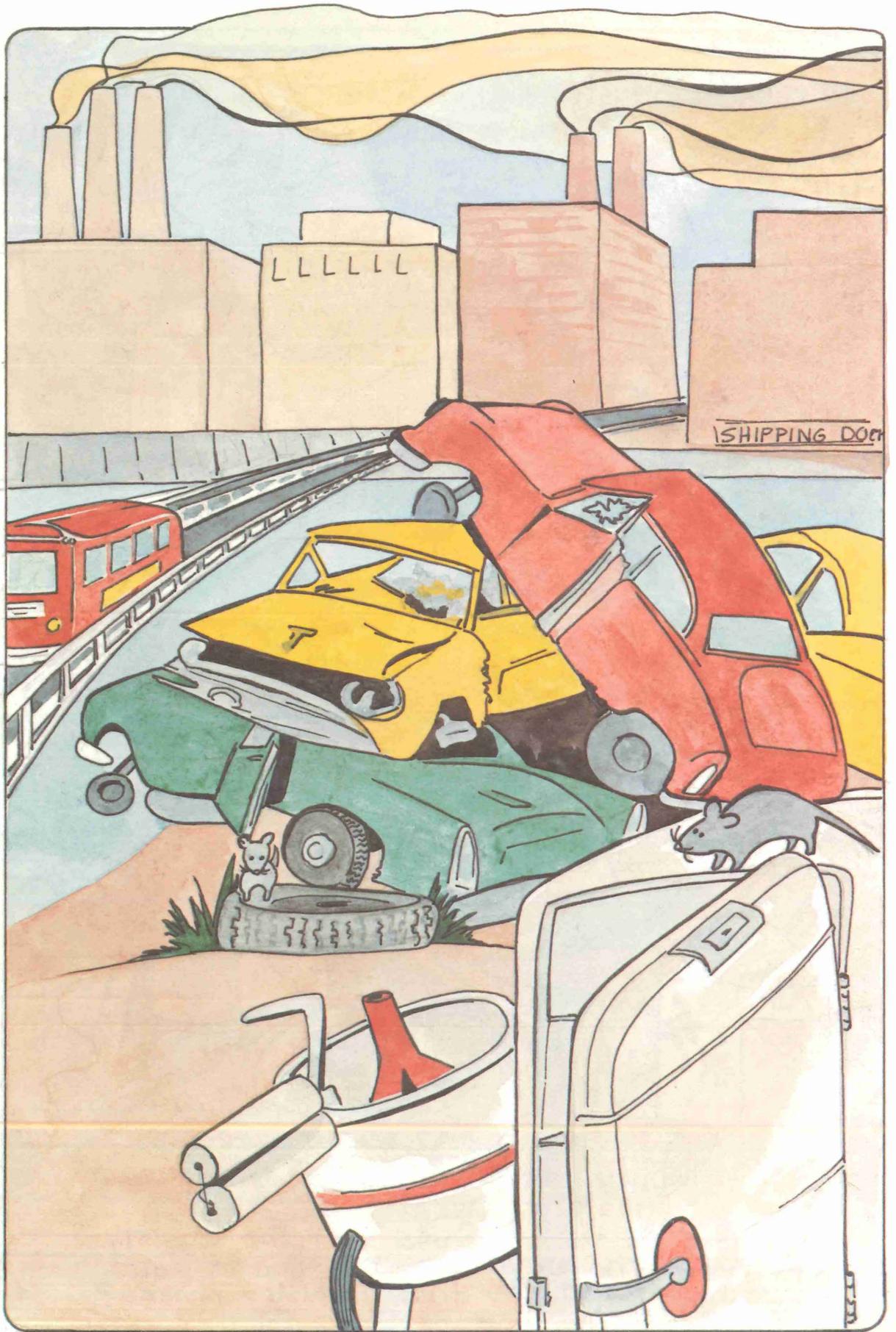
HERBICIDES

PESTICIDES

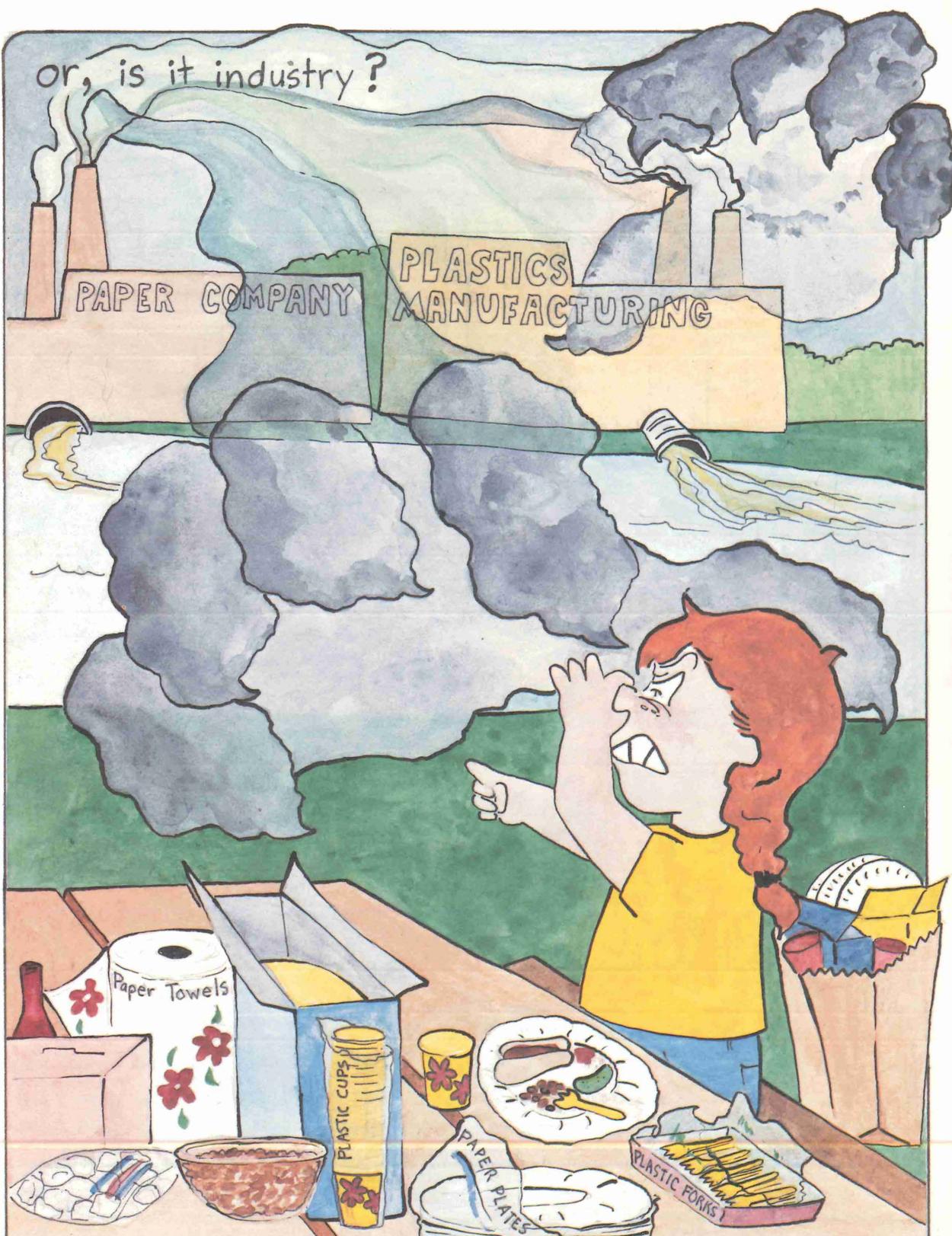
Do you know who the polluter
and unwise user and developer is?



Is it the big city?

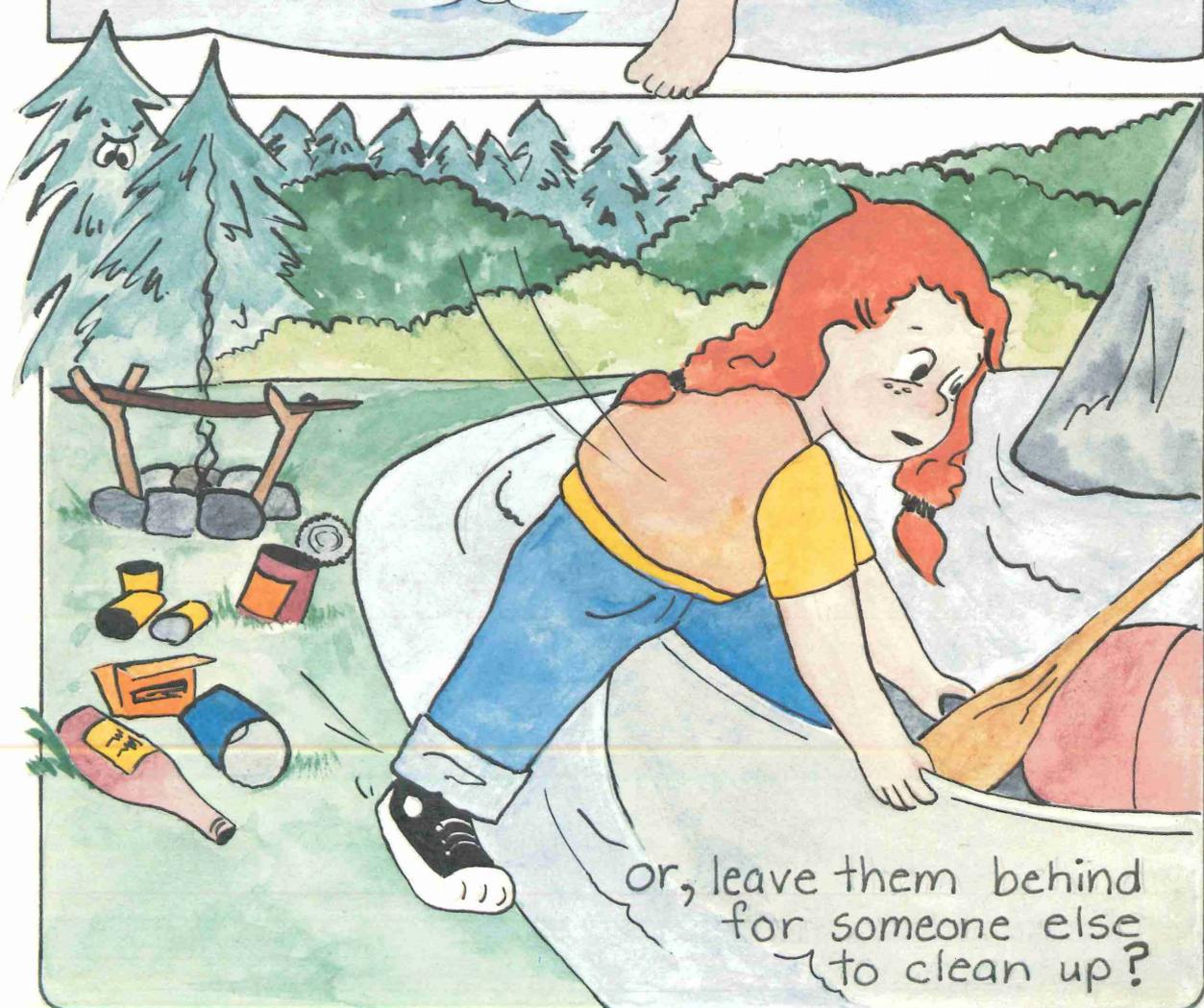


or, is it industry?

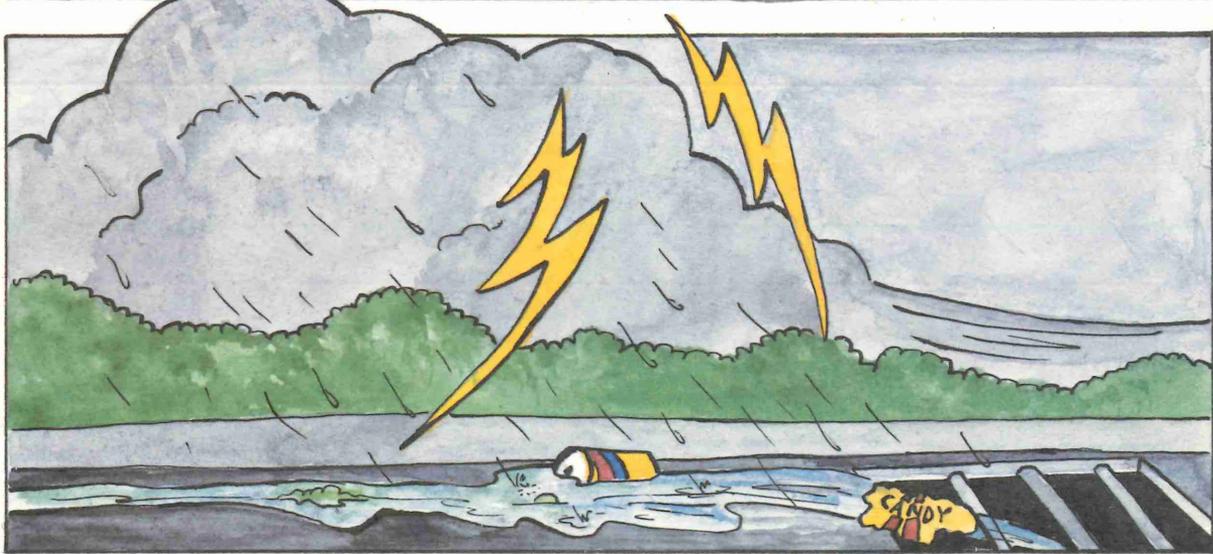
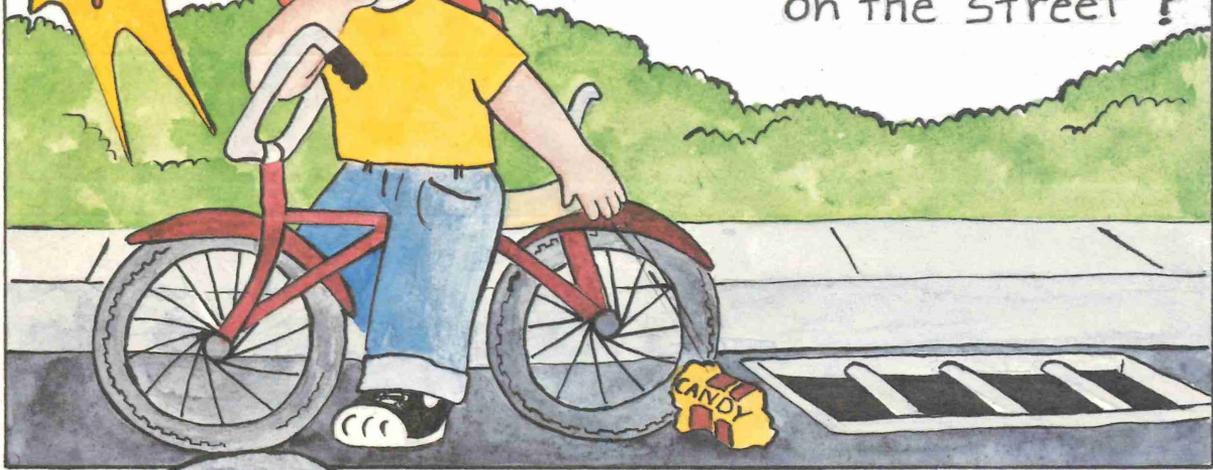


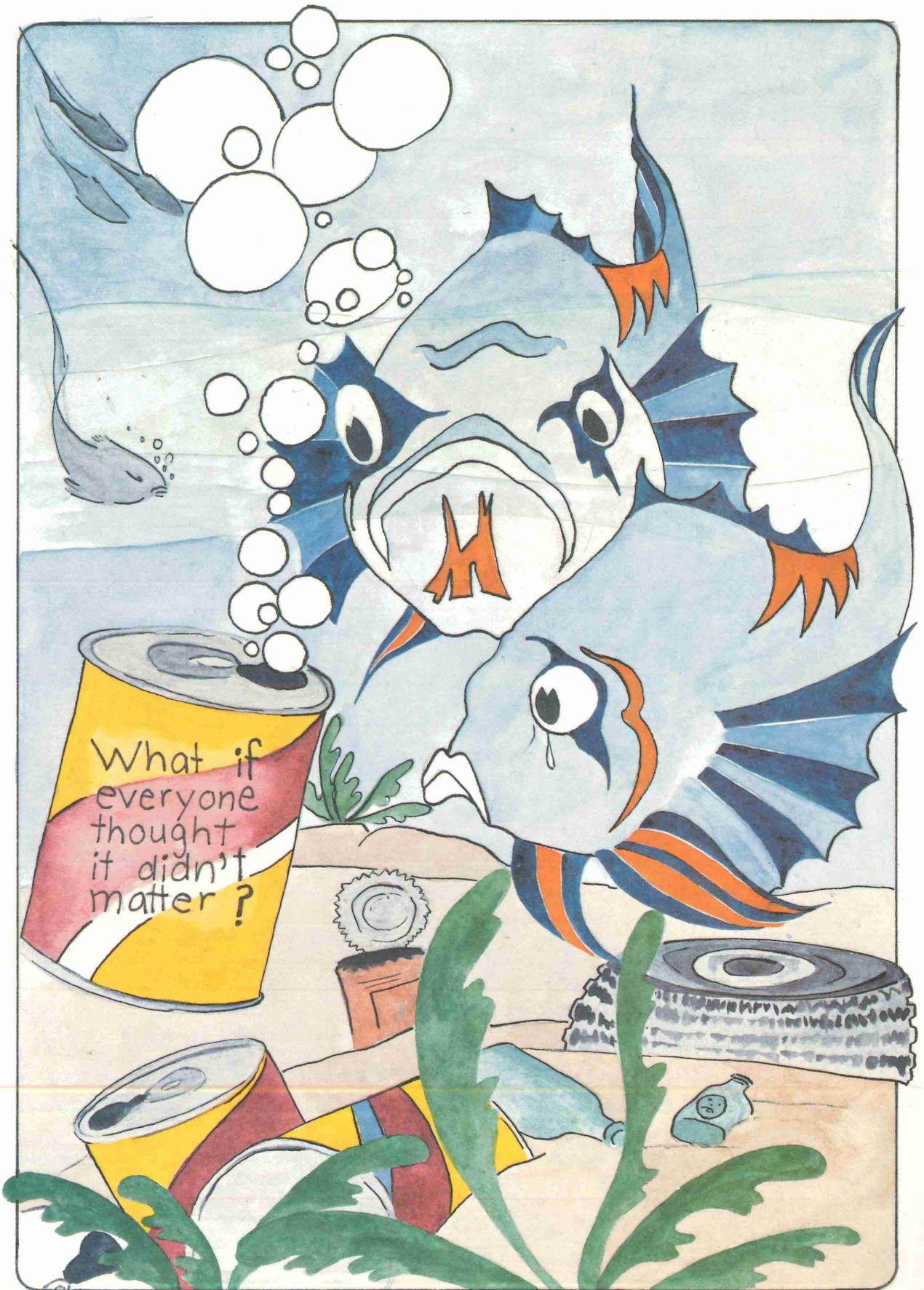
Who uses all the comforts that the big city provides? Who buys the paper and plastic throw-away products that industry makes?
☆☆ Could **YOU** be part of the problem?

Do you think it doesn't matter
if you throw just one pop can
into the water?



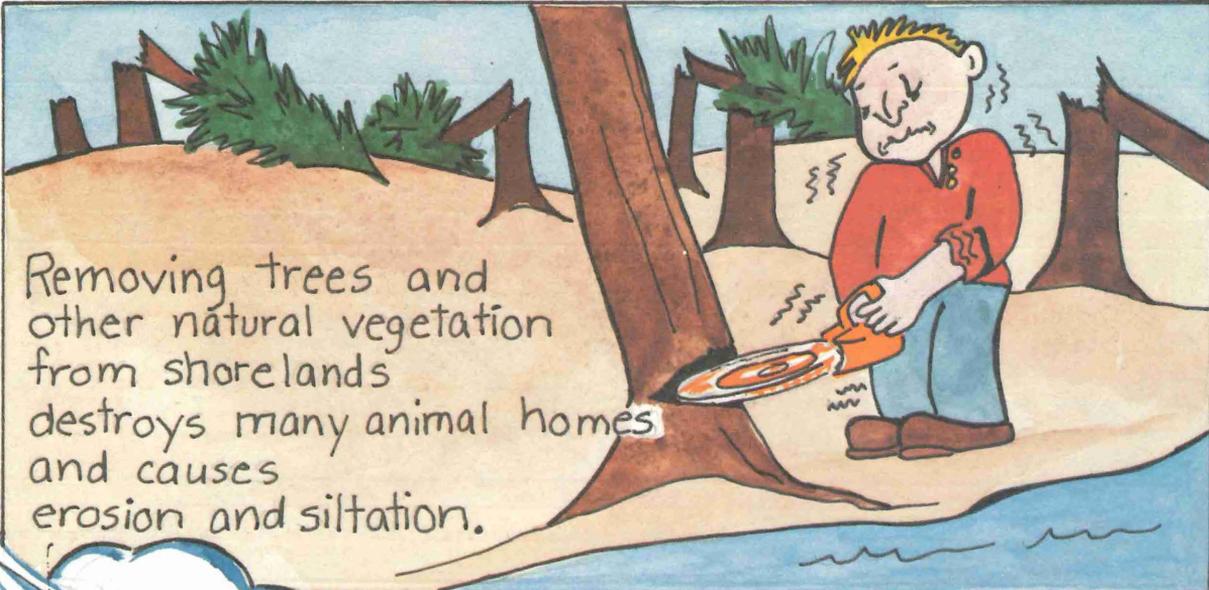
Do you think it doesn't matter if you throw candy wrappers on the street?



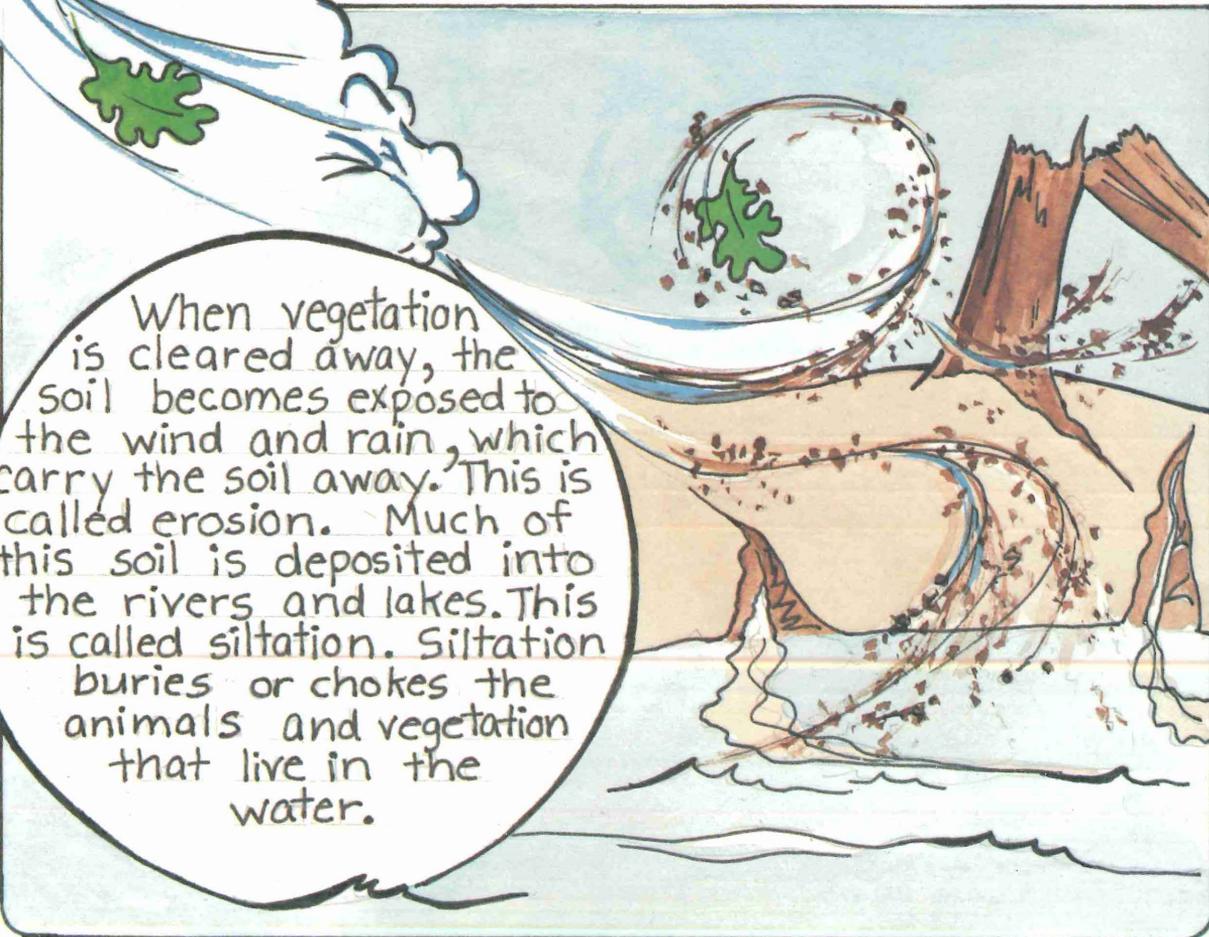


What if everyone thought it didn't matter?

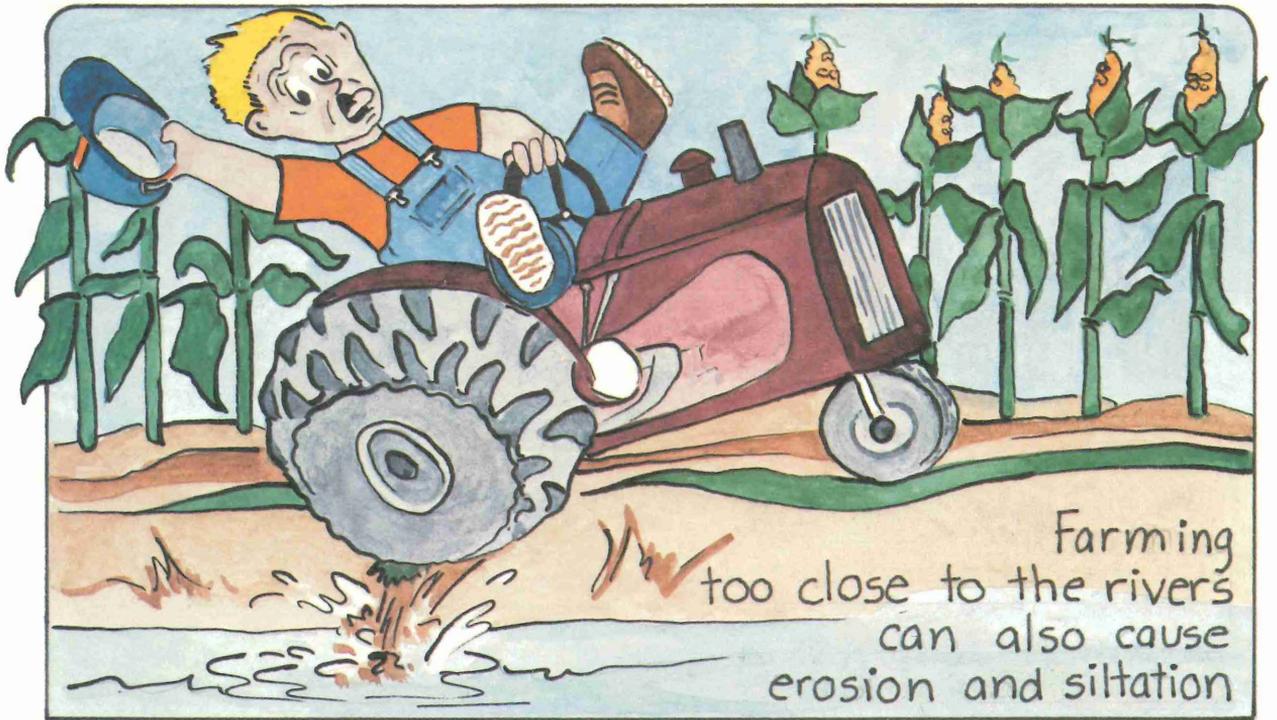
Harmful pollutants dumped into the water or scattered in the air, and littering are not the only ways you can harm rivers and lakes.



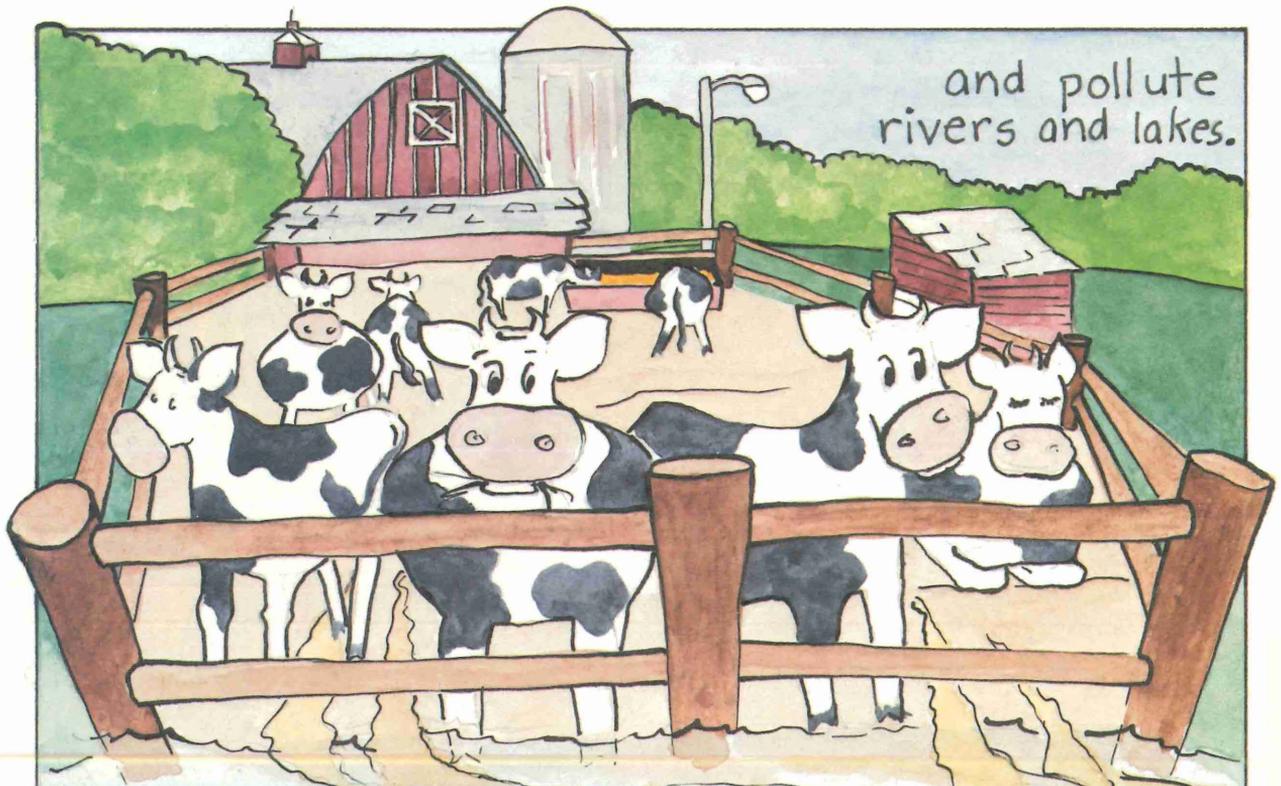
Removing trees and other natural vegetation from shorelands destroys many animal homes and causes erosion and siltation.



When vegetation is cleared away, the soil becomes exposed to the wind and rain, which carry the soil away. This is called erosion. Much of this soil is deposited into the rivers and lakes. This is called siltation. Siltation buries or chokes the animals and vegetation that live in the water.

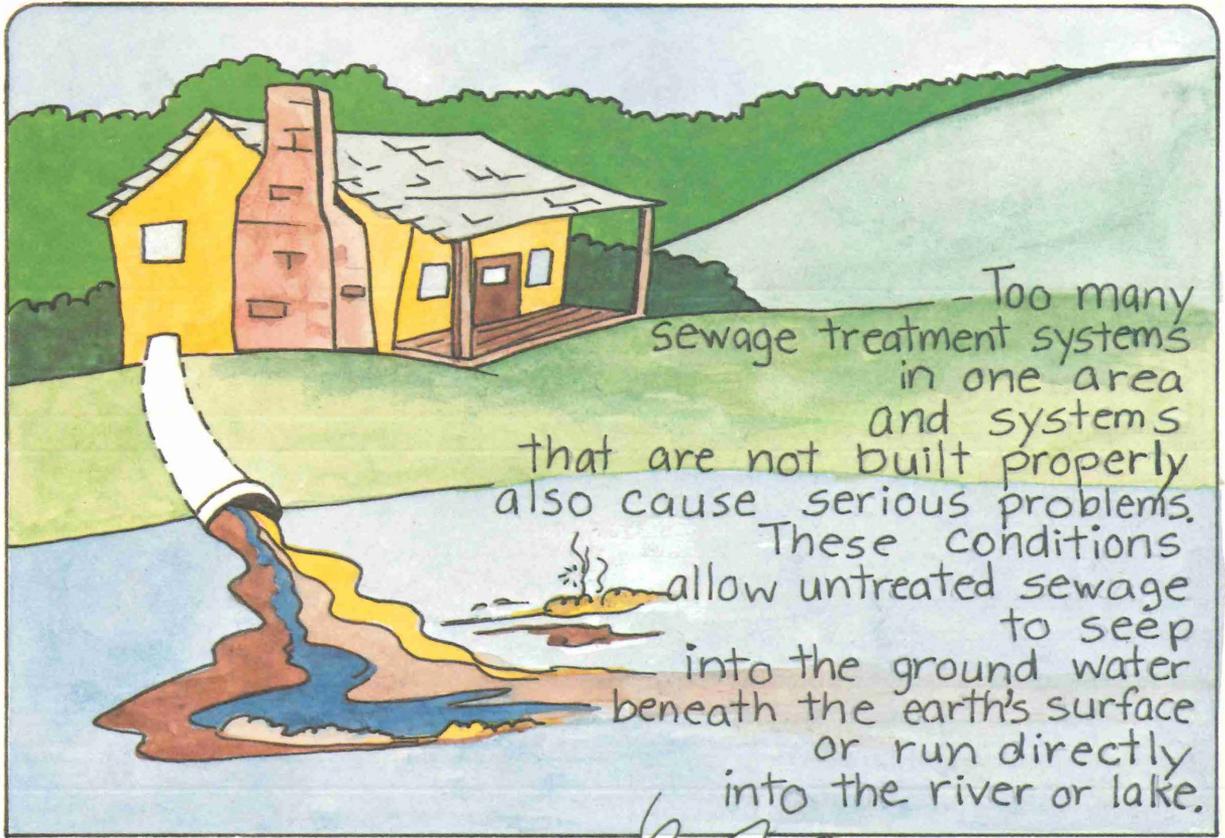


Farming
too close to the rivers
can also cause
erosion and siltation



and pollute
rivers and lakes.

When animals gather in feeding pens, they trample the vegetation, which exposes soil and causes erosion. In addition, the animals' waste concentrates in this small area, which cannot absorb it all. If the pen is located near a river or lake, all this waste runs off into the water.



— Too many sewage treatment systems in one area and systems that are not built properly also cause serious problems. These conditions allow untreated sewage to seep into the ground water beneath the earth's surface or run directly into the river or lake.

The chemicals and bacteria from the untreated sewage and other pollution cause algae blooms and excessive weed growth. This condition makes the water smell bad and look ugly. All the algae and weeds use up the oxygen that is needed by the fish to breath. Besides that ... all these harmful chemicals and bacteria can make **YOU** sick.



Building too close to a river or lake can be risky if the water levels change rapidly.

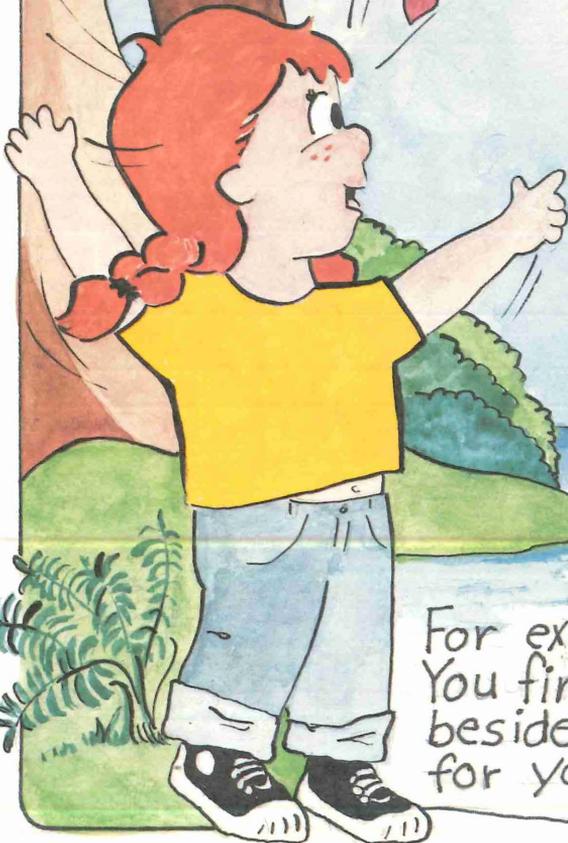


When rain or snowmelt add water to rivers and lakes the water overflows and floods the surrounding lands.



Floods can damage your property and threaten your life. Victims of floods need emergency assistance which is paid for by all of us through our taxes.

If you do not give careful thought about where and how you build your home, **YOU**, too, may cause these same problems that harm our rivers, lakes and shorelands.



For example:
You find a perfect place
beside a river or lake
for your dream home...

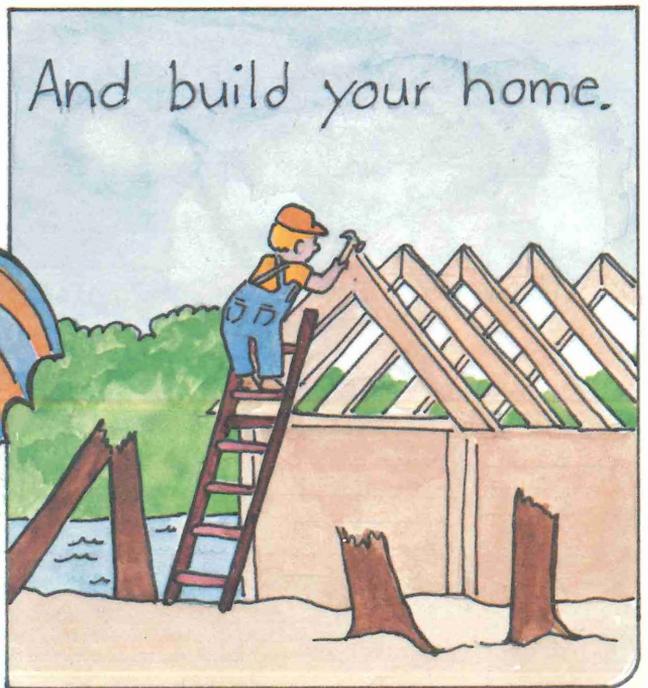
Then you clear away a few trees.



Push some dirt here and there.



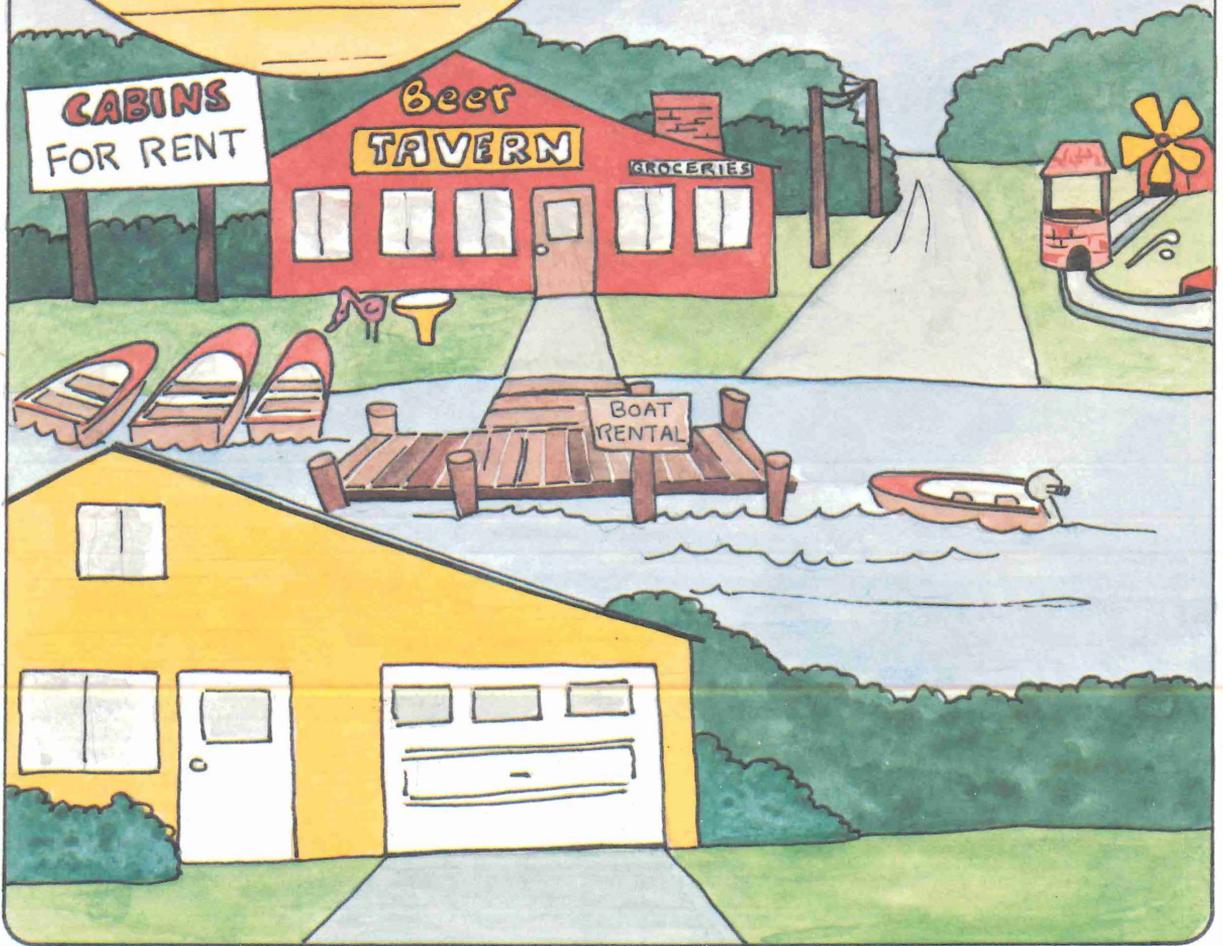
And build your home.



You settle in and then, **WHAT?**

Gasp!!
My beautiful
view...

Someone else decides
to build their dream place
just across the river.



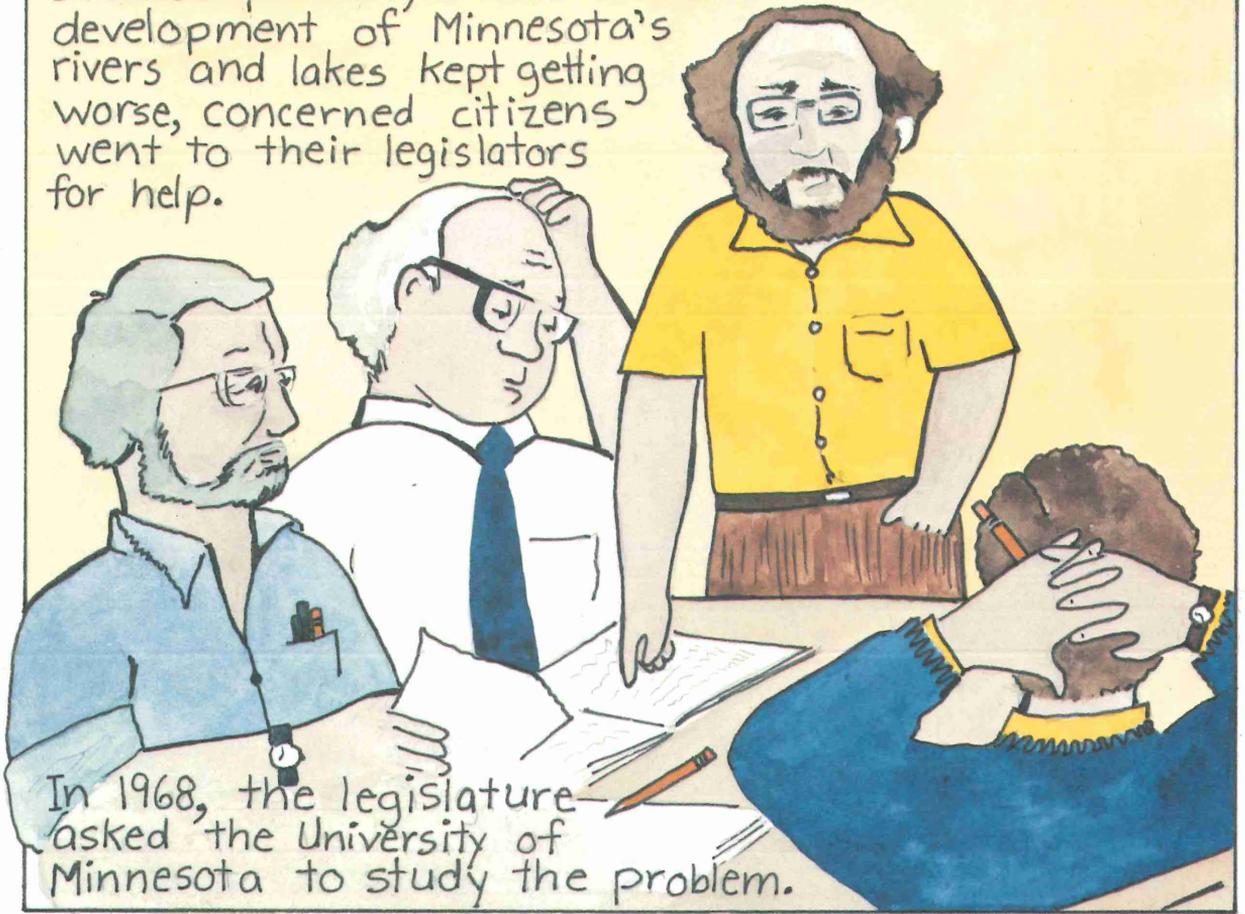


If pollution,
unwise use and
unwise development
are allowed to spoil
more and more waters
and shorelands

Where will
the animals go?

What the Government Is Doing

Because pollution, unwise use and development of Minnesota's rivers and lakes kept getting worse, concerned citizens went to their legislators for help.

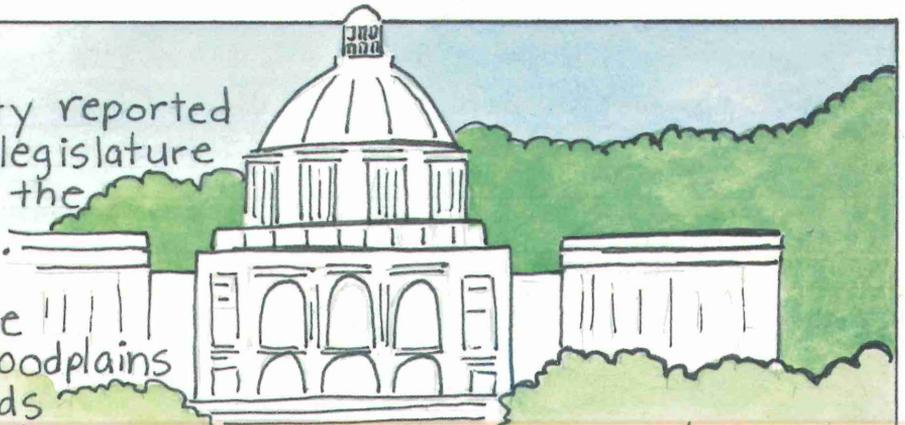


In 1968, the legislature asked the University of Minnesota to study the problem.

The University reported back to the legislature how serious the situation was.

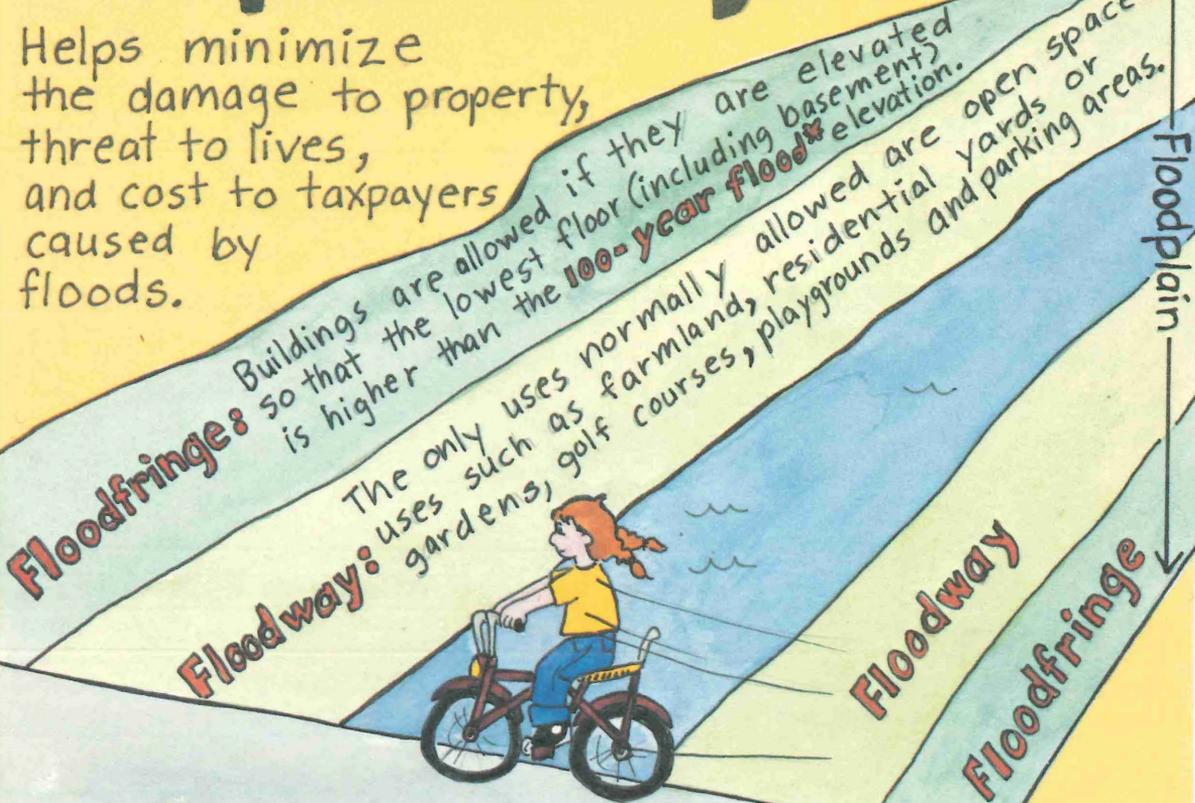
So, in 1969 the legislature passed the Floodplains and Shorelands

Management acts to prevent loss of property and threat to lives by floods, and to prevent future misuse of rivers and lakes and their bordering lands. The legislature then directed the DNR to write the guidelines for these two acts and the local governments to carry out these guidelines.



Floodplain Management:

Helps minimize the damage to property, threat to lives, and cost to taxpayers caused by floods.



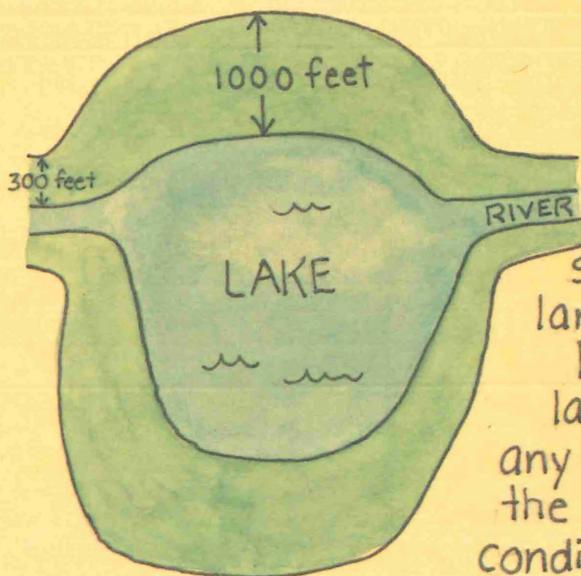
A **100-year flood** is a dangerous flood that is higher than a normal flood and has a 1% chance of occurring every year.

--- 100-year flood ---
--- normal flood ---

The floodplain management program controls development in floodplain areas which must be left open to pass or store flood waters. It ensures that development which does take place is properly planned and constructed to prevent future flood damage.

Shoreland Management:

Helps provide guidance for the wise use and wise development of shorelands. Helps preserve the economic and natural environmental values of shorelands. And helps protect the water quality of our lakes and rivers.

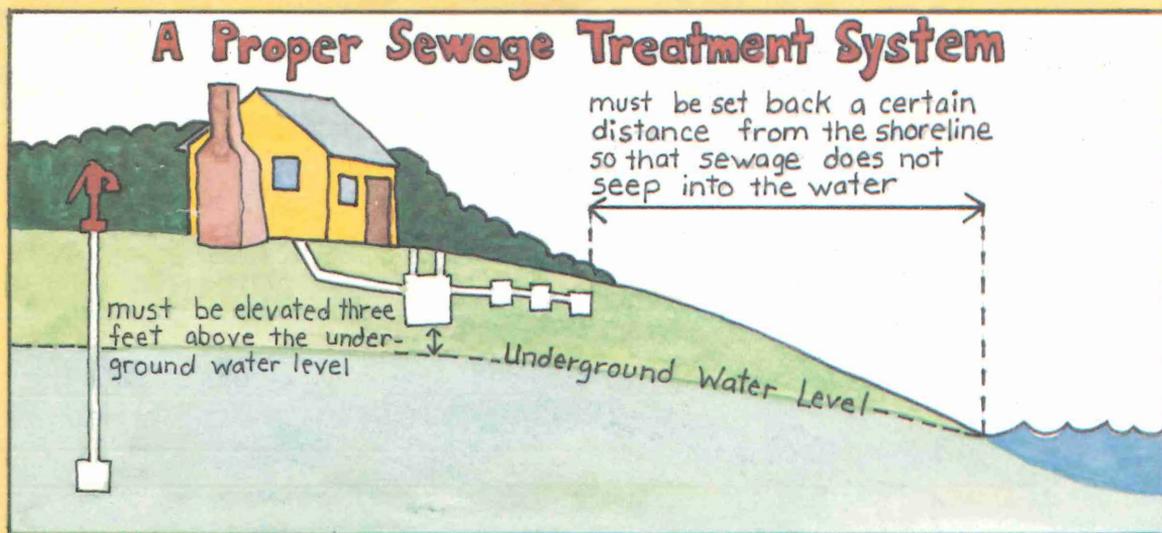


All shorelands within 1000 feet of lakes and within 300 feet of rivers are subject to the shoreland management standards. Because the water in lakes and rivers is public, any use which could harm the biological or physical condition of the water is not allowed under shoreland standards.

Shoreland Standards

- 1. lot size** - Lots must be large enough for intended use. This helps prevent overcrowding and pollution caused by bad sewage treatment systems.
- 2. lot shape** - Lots must allow plenty of area to construct a building or sewage treatment system far enough away from the water.
- 3. topography** - The ground should be high enough so that buildings will not be flooded by water level changes.

- 4. Soil condition** - Lots should have soil suitable for constructing buildings and sewage treatment systems.
- 5. Vegetation** - Enough vegetation must be left to prevent soil erosion and to screen vehicles and buildings when viewed from the water.
- 6. Sewage treatment systems** - Sewage treatment systems must be set back far enough from the river or lake and must be elevated high enough above the underground water level and bedrock. The treatment systems must also be large enough to handle expected use and have a watertight septic tank. These measures will help prevent sewage from seeping into rivers, lakes and the underground water.



water development permits - A permit must be obtained from the DNR before a project that will affect the river or lake begins. This will guide development and uses to help prevent harm to the biological or physical condition of the river or lake.

Wild and Scenic Rivers:



In the early 1970s the DNR studied the Minnesota waterway laws, including Shorelands and Floodplains. The DNR decided that more

protection was needed for Minnesota's outstanding rivers. So the DNR and the University of Minnesota prepared a draft of a law to preserve and protect Minnesota's outstanding rivers and presented it to the legislature for approval. The legislature approved. So on May 16, 1973 the Governor signed the Minnesota **Wild and Scenic Rivers Act** into law at a ceremony on the banks of the Mississippi River.

The Wild and Scenic Rivers Act is not meant to restore riverlands to wilderness, but is meant to prevent further damage to Minnesota's outstanding rivers that is caused by uncontrolled development.

To protect rivers that qualify, the Wild and Scenic Rivers Act uses local zoning, acquisition and recreation management.

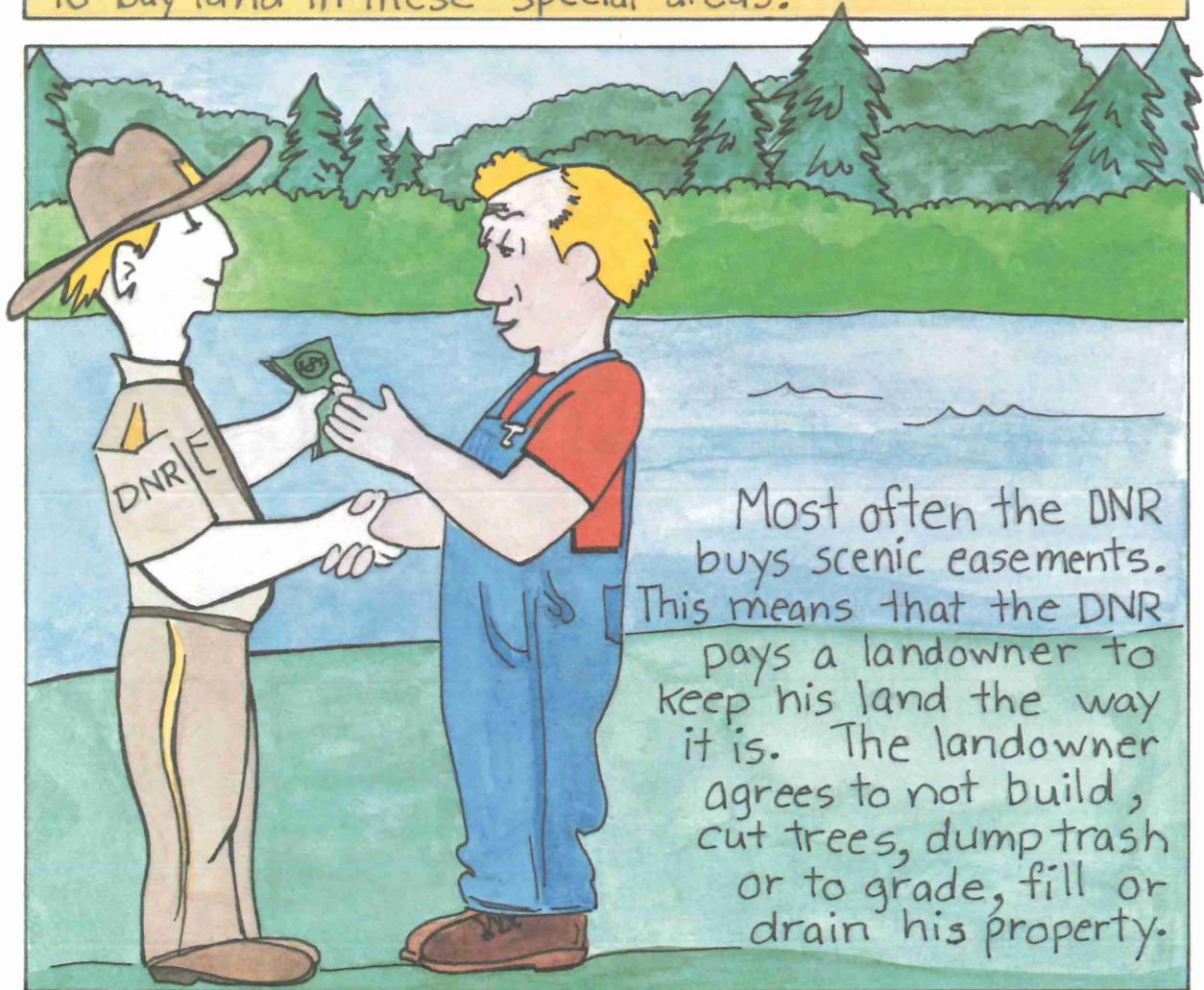
Zoning

Zoning rules establish specific building and development requirements along Wild and Scenic rivers. They also control uses which may destroy the river.

- 1. lot area and width** - New lots along Wild and Scenic rivers must be large enough to prevent the overcrowding of homes along the river. This indirectly reduces the need for construction of roads, the clearing of trees, and the number of sewage treatment systems and utilities that could affect the river.
- 2. building setbacks and height restrictions** - Buildings must be set back certain distances from the river and their height must not exceed 35 feet, except for farm buildings. Setbacks help prevent erosion caused by clearing of trees and vegetation during construction. These restrictions and setbacks also help keep buildings from dominating the riverscape.
- 3. sewage treatment system setbacks** - Sewage treatment systems must be set back a certain distance from the river to prevent sewage from seeping into the water.
- 4. vegetative cutting rules** - These rules do not allow the clearing of all trees and vegetation between the river and the buildings. Diseased, insect-infested, rotten or damaged trees and small trees and plants may be removed. Lawns may be mowed and crops harvested. Vegetative cutting rules help keep a natural screen along the river, help preserve the animals' homes and help maintain ground cover which helps prevent erosion.

Acquisition

Zoning alone can't protect certain natural areas along our Wild and Scenic rivers. So the DNR negotiates to buy scenic easements or to buy land in these special areas.



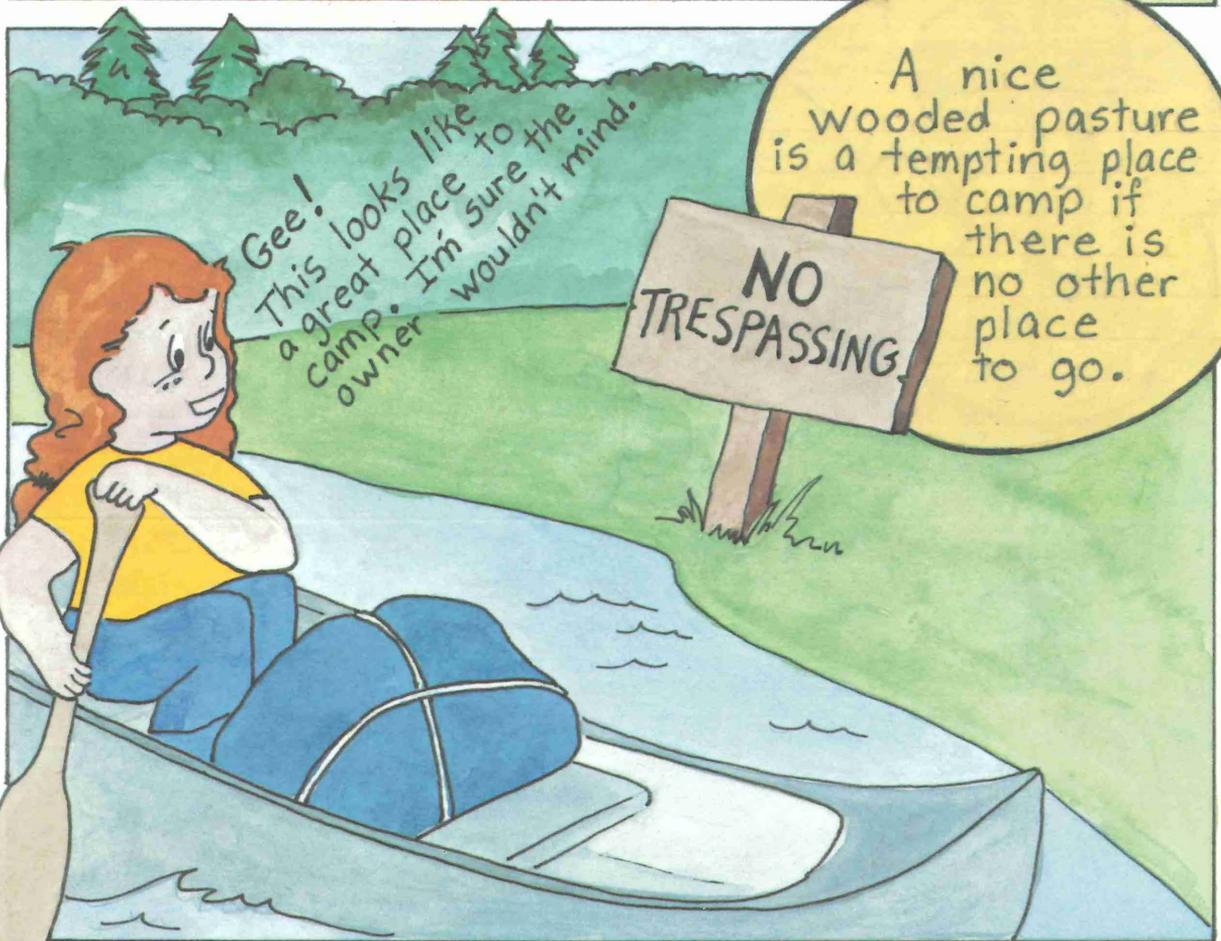
Most often the DNR buys scenic easements. This means that the DNR pays a landowner to keep his land the way it is. The landowner agrees to not build, cut trees, dump trash or to grade, fill or drain his property.

Sometimes the DNR buys land outright. When campsites, accesses and rest areas are needed along a Wild and Scenic river, the DNR will buy a small piece of land to build these recreational facilities. The DNR will also buy land that possesses outstanding scenic, recreational, natural, scientific or historical values.

★★ The DNR can buy scenic easements and land along Wild and Scenic Rivers **ONLY** from landowners who are willing sellers.

Recreation Management

Provides rules to help prevent littering and trespassing and provides recreational facilities designed to meet river user needs.



Public campsites, accesses and rest areas are necessary to provide a place for users to gain access, camp or picnic along the river without trespassing on private property.

The DNR buys or leases land to build campsites, accesses and rest areas to help prevent problems of trespassing on private property and to help prevent overcrowding of recreation sites.

★ Purchase of land by the DNR through the Wild and Scenic rivers program requires a willing seller.

What YOU Can Do

You have been taught that expensive technology can take care of our problems. You are used to drinking water that has been chemically treated. Your eyes are used to the heaps of trash and ugliness that interrupt the scenery. Your nose no longer smells the clouds of industrial air pollution. And your ears no longer hear the drone of machine after machine.

Aha!!
Clean Water



WATER
TREATMENT
PLANT



Hmm??

Before YOU adjust to an earth without clean water or air, beautiful scenery, or quiet, maybe **YOU** should start thinking and caring about these problems too.

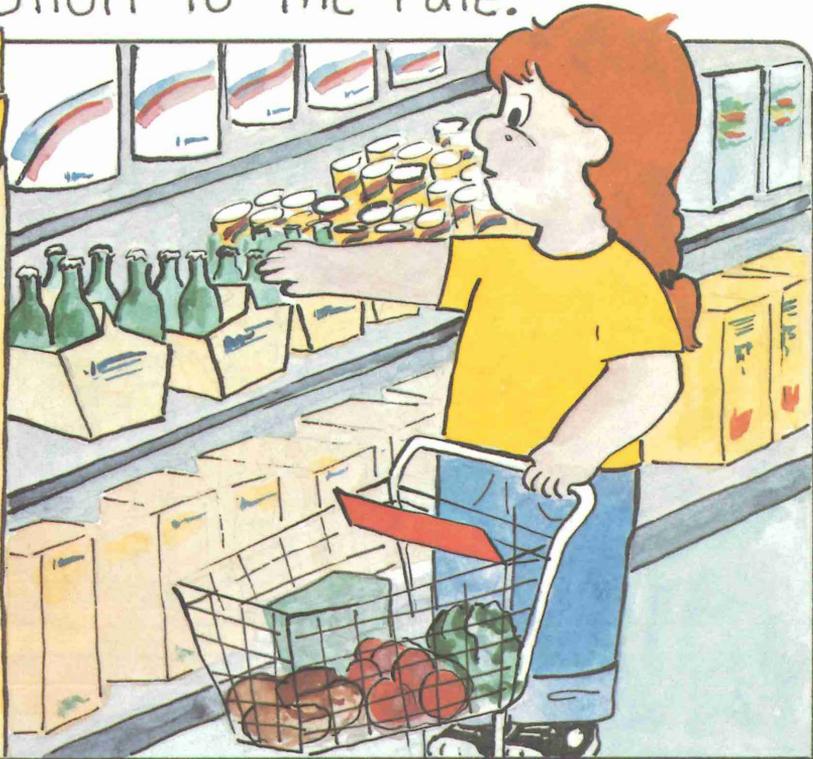




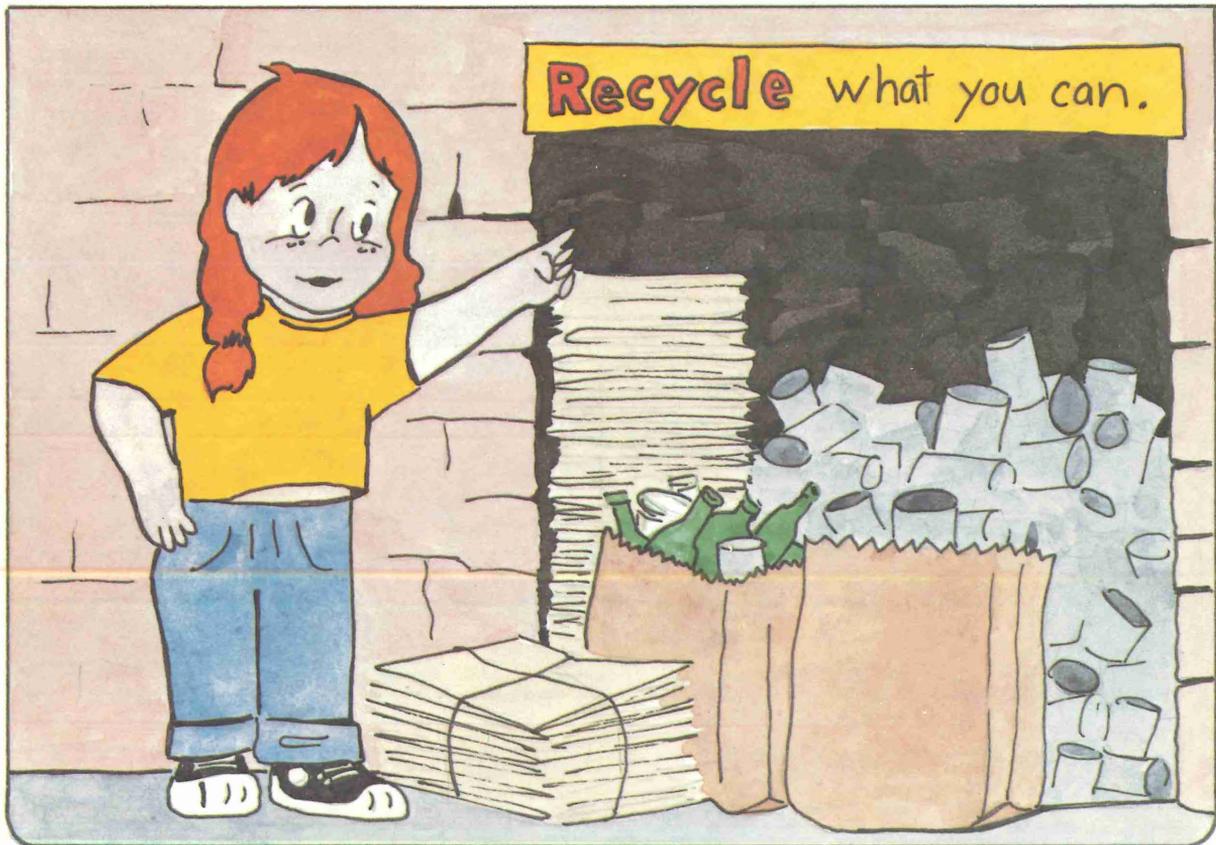
Don't make yourself the exception to the rule.

CONSERVE

Use
fewer
throw-away
products



Recycle what you can.



BE CONSIDERATE



Put
litter
where
it belongs.

Give careful thought
to where and how
you build your home.



★ ★ And remember ... What you do upstream,
affects someone downstream.



We must wisely use and develop
our rivers and lakes and their shorelands
and help keep them clean.

If we don't,
When All The Clean Water Is Gone,

Where will WE go?

