

# EDITORIAL

## Water everywhere . . . and not a drop to drink?

Lurking behind every recommendation of the Goals and Policies Guide to Decision Making, prepared for the Town of Barnstable and recently distributed, lies the warning that over-population will lead to ground water pollution.

To appreciate fully the implications of water pollution we must recognize exactly what it would mean to residents of the town, to the entire Cape and all its inhabitants, and to our local economy.

Begin with the realization that we live on top of our reservoir. One pool of fresh water underlies our peninsula; from it comes water for drinking, cooking, irrigating gardens, lawns, and golf courses, washing our bodies, clothing, and dishes, scrubbing vegetables and rinsing fruits, cleaning floors and windows, washing cars and boats.

Except where a thin stratum of permeable sandy soil separates us from our water supply, an almost limitless sea of salt water surrounds the fresh water lens.

Into the thin layer of soil, Cape Codders are pouring toxins with wild abandon. All our sewage goes into the ground. All our garbage and trash goes into the ground. Nitrates by the ton are leached into the ground when we water in chemical fertilizers we spread on gardens, lawns, and golf courses.

Petroleum products (oils, gasoline, cleaning fluids, paints, dyes, and thinners) are leaked, dumped, and spilled onto the ground. Pesticides sprayed to control insects ultimately go into the ground.

From there, all these materials are filtered through sand, loam, and clay. Some is absorbed by plants as nutrients, some is trapped between grains of sand, and some leaches into our water supply.

Since our reservoir is a limited resource, it has only a certain capacity for diluting toxic wastes. When that capacity is reached, when the parts of poisons per gallon of water make our water unsafe for human use, what can we do to clean it?

Picture yourself on the day the media announce the water flowing from your faucets is polluted. You don't dare drink it, make tea or coffee with it, or cook with it. Even boiling won't remove toxic chemicals. You could distill it to make it safe, but it's less expensive to buy bottled water for drinking and cooking.

Would you want to bathe in water unfit to drink? Would you wash your dishes with it? Your clothing? Could you safely pour it into your vegetable garden? Eat blueberries growing on bushes where tap water had run? Could you relish strawberry shortcake if the berries had been nourished with it?

You wouldn't wash lettuce, celery, tomatoes, or radishes with water unfit to drink. Nor would you brush your teeth with it. If you thought it safe enough for watering your lawn, you'd be certain your children didn't run through the spray.

Swimming in all the Cape's fresh water ponds would be prohibited, of course. In ponds and swamps are found the only part of the reservoir we can see. Would you eat a fresh water fish caught at a Cape Cod pond?

How serious is the threat of over-population to our water supply? In 1980, Town of Barnstable water companies pumped just under 2 billion gallons of water. In some parts of town, people still have private wells; usage of these is not measured.

While as yet engineers studying our water reserves give no

definite estimate of the quantity of water available, they can tell us it takes 4,000 acres of open space land to replenish the quantity of water we used in 1980.

For the arithmeticians: On the average, the Cape receives 40+ inches of rain each year. Water lost through evaporation, run-off into the sea, and transpiration by plants equals 22 of those inches. The net available to recharge wellfields and "zones of contribution" (watersheds) equals 18 inches, or one-and-one-half feet. Each acre contains 44,000 square feet and nets, if open land, 66,000 cubic feet of rain water, per year.

A cubic foot of water equals 7.2 gallons. Therefore, an acre of open land feeds about 475,000 gallons of water, each year, into the ground water lens. To make it simple, say 500,000 gallons.

If the town of Barnstable pumps two billion gallons a year, and an acre of open space delivers 500,000 gallons, it takes 4,000 acres of land to maintain an equilibrium.  $(2,000,000,000 \div 500,000 = 4,000 \text{ acres.})$

Now look at the history of growth in the town of Barnstable. In 1940, 8,333 people lived here year-round; now more than 31,000 live in our seven villages. Between 1970 and 1980, our population grew by fifty percent. Continued growth is expected; over 50,000 people are expected to live here by the year 2000. Additionally, 35,000 more will have second homes here. Tourists will swell our numbers by another 10,000 or so.

Do we have enough water to supply all these people and their needs? Are we planning so we can assure our water supply will be adequate for all those people? We'd **better** be.