Business and government presently rely on the "prove harm" method of pollution control to justify practices that damage ecosystems, wildlife and people. Using this approach, harmful practices are allowed to continue until a cause-and-effect relationship has been demonstrated to a scientific certainty, which may take 50 years or longer. As we have said before (RHWN #319) three key assumptions underlie this old approach:

1) Assumption #1: Humans can "manage" the environment by deciding how much damage the Earth (or any portion of the Earth) can safely absorb without harm. Scientists call this the Earth's "assimilative capacity." According to this approach, scientists can reliably decide how much of any harmful practice the Earth, or any portion of the Earth (such as the Mississippi River or Chesapeake Bay, or an eagle or a human), can safely absorb or absorb without causing harm. (This is what every "risk assessment" claims to do.)

2) Assumption #2: Once a system's "assimilative capacity" has been decided, then we can and will see to it that no greater damage is permitted. We will set limits, river by river, factory by factory, technology by technology, chemical by chemical, everywhere on the planet, so that the total, cumulative damage does not exceed the "assimilative capacity" of the Earth.

3) Assumption #3: We already know which practices (and which substances) are harmful and which are not; or, in the case of practices (and substances) that we never suspected are harmful, we will be warned of their possible dangers by traumatic but sub-lethal shocks that alert us to the danger before it is too late.

RECENT HISTORY SHOWS US THAT ALL THREE ASSUMPTIONS ARE DEAD WRONG. To cite but one example: scientists hired by the Ethyl Corporation and by DuPont and General Motors argued for several decades that there is a "safe" amount of lead, an amount that humans could "assimilate." We now know--50 years too late--those scientists were wrong. As a result, nearly all Americans, especially children, have had their intellectual capacity diminished by low-level lead poisoning, and we are faced with a mammoth, phenomenally expensive job cleaning lead out of our homes, and out of many surface soils of the U.S.

As a result of the "prove harm" approach, ecosystems are being damaged everywhere on Earth, in ways we only dimly understand. For example, measuring "productivity" by fish harvests, the Chesapeake Bay has lost 90% of its productivity during the past 100 years. The causes are poorly understood, but the devastation is unmistakable. Harm to humans is also increasing: for example, in the U.S. we are seeing steady increases in many cancers, asthma, infertility, attention-deficit disorder, ectopic (tubal) pregnancies, gross birth defects, and so on.

Because risk assessment is more art than science, polluters and their acolytes in government can use it to justify bad decisions. They use it to justify logging the old-growth forests (now 95% gone), and they use it to justify dumping huge quantities of toxic chemicals into rivers and lakes (now, all of them, polluted). The "assimilative capacity" approach, and risk assessment, legalize killing and maiming, plain and simple.

To a large extent the environmental community goes along with these practices, arguing over the placement of decimal points and commas, but not challenging basic assumptions.

Now we are seeing signs that "pollution prevention" and "toxics use reduction" (popular concepts these days) are starting to occur within the framework of "assimilative capacity" and "risk assessment." Instead of reducing actual pollution, mathematical models and other tricks of the risk assessors are being used to "prove" that we are DECREASING risks even as we are INCREASING harmful practices.

We see this happening with the "toxics release inventory" (TRI) data released this week. EPA (U.S. Environmental Protection Agency) announced that 1991 releases of industrial chemicals dropped 9% compared to 1990. Yet waste production did not decrease. What this means is that industry is "managing" more wastes on-site, often burning it in highly-polluting industrial boilers and furnaces (BIFs), thus emitting harmful byproducts onto communities while claiming to reduce the quantities of chemicals released.

If "pollution prevention" is allowed to proceed within the present framework of "assimilative capacity" and "risk assessment," irreparable harm will be done before any meaningful prevention occurs.

Happily, there is another way: the principle of precautionary action, and "alternatives assessment" instead of risk assessment. The precautionary principle says that, to avoid irreparable harm to the environment and to human health, precautionary action should be taken: wherever it is acknowledged that a practice (or substance) could cause harm, even without conclusive scientific proof that it has caused harm or does cause harm, the practice (or emissions of the substance) should be prevented and eliminated.

As an adjunct to "risk assessment," we could expand the reach of existing laws that require alternatives assessment. For example, section 102 of the National Environmental Policy Act of 1969 (NEPA) requires discussion of "all reasonable alternatives" in environmental impact statements for all major federal decisions. This law says, before any major decision, we must ask, "What is the least damage we can do?, not "How much degradation can the planet assimilate?"

However, at the present time, local government and private-sector decision makers are not required to evaluate the alternatives they face at any decision point. They are not required to tell the public that they are (or are not) actively looking for, and considering, less energy-intensive, less extractive, less toxic, less wasteful ways of behaving. Given that many private decisions today have the effect of degrading public-trust resources (air, water, land, and food chains), such decision makers need a mandatory framework within which they must exhibit responsible decision making practices.

The information produced in an "alternatives assessment" will arm citizens with information they can use to pressure polluters at the local level, not waiting for government to act.

In sum, relying on the old "assimilative capacity" approach, the planet has been badly damaged, and the damage continues to accumulate daily. This old way is not sustainable. As we replace the "assimilative capacity" approach with the precautionary principle, it will become possible for the world to industrialize sustainably.

During the next few months, the environmental community will have an opportunity to "draw a line in the sand" on a clear issue that distinguishes the old way from the new way: an impending fight over cancer-causing pesticides and food additives in our food supply.

The issue is the "Delaney clause," which Congress inserted into section 409 of the federal Food, Drug and Cosmetic Act in 1958. (See RHWN #324, #326.) The Delaney clause (named after its author, Congressman James Delaney, D-N.Y.) prohibits FDA approval of any food additive found to cause cancer in humans or animals. FDA (U.S. Food and Drug Administration) has legal authority to approve or disapprove food additives. EPA (U.S. Environmental Protection Agency) has responsibility for approval of pesticides. A federal appeals court in July 1992 ruled that, if EPA finds residues of cancer-causing pesticides in processed food like ketchup or canned soup, this violates the Delaney clause. There are only two possible solutions: Congress could weaken the Delaney clause or EPA could ban about 50 cancer-causing pesticides.
The food chemicals industry (a branch of the petro-chemical industry) argues that small amounts of cancer-causing chemicals in our food are no problem. They say the "science" of 1958 was crude. They argue that today's "better science" allows us to measure risk more precisely. They argue that each food-use of each pesticide should be allowed to kill one in every million citizens each year. In other words, they say that Americans should be willing to trade a few thousand human lives each year for a cheap, abundant supply of food. They seem to forget that Americans had a cheap, abundant supply of food before modern cancer-causing pesticides were developed.

The Delaney clause is exceptionally important because it is the only "zero carcinogen" standard in U.S. law, and therefore a crucial precedent. If we lose it, we'll never get it back. Congress is going to be pressured by the polluters to replace Delaney with a "one-in-a-million" risk standard. The problem with this is, risk assessments are only as good as the knowledge that goes into them, and scientific knowledge of the effects of pesticides in our food will always be incomplete. A risk-assessment-based pesticide policy plays Russian roulette with many human lives. Each year, we learn that last year's knowledge was flawed. Pesticides that seemed "safe" last year are recognized as unsafe this year. Delaney is based on the sensible maxim, "Better safe than sorry."

A "zero carcinogens in our food" policy is a good policy. It genuinely protects the public. It is easy to understand, easy to enforce, fair, and safe. It reflects a modern philosophy of pollution prevention, and is consistent with modern public health practice, which stresses prevention over cure. Rather than get rid of the Delaney clause, we should consider adding new clauses that prohibit not only carcinogens in our food, but also chemicals that interfere with the immune, reproductive, endocrine, and nervous systems, extending the reach of Delaney's "zero carcinogens" policy.

The Delaney fight also offers the environmental community an opportunity to insist that users of pesticides should complete an "alternatives assessment" every second year, in which they must describe what alternatives they considered for each use of each pesticide. If a business person (in this case a farmer) is allowed to discharge large quantities of chemicals into the environment in nearly-complete ignorance of the effects on people, wildlife and ecosystems, he or she at least ought to have to say in writing, "Here are the alternatives I considered before I spread these poisons into the environment." Since every crop grown WITH pesticides is also grown somewhere in the U.S. WITHOUT pesticides, requiring "alternatives assessments" would at least make chemical farmers acquaint themselves with the practices of organic farmers.

--Peter Montague

Descriptor terms: risk assessment; assimilative capacity; prove harm; chesapeake bay; pollution prevention; toxics use reduction; tri; bif; alternatives assessment; pesticides; delaney clause; delaney amendment; agriculture; farmers; farming; food safety;