

Environmental degradation ■ By Thomas E. Lovejoy

Patient Earth

WASHINGTON

Even though we should know better, it is natural to regard what we grew up with as the normal state of affairs. Indeed, every generation has a different view of "the good old days."

This is particularly troublesome with respect to the environment and nature. Without some perspective of what might be "normal," it is hard to understand the impact we have had on our planet and what to do about it.

At the time I turned my hand to environment and conservation, the number of endangered species worldwide was modest. To be sure there were the first signs of more pervasive problems heralded in Rachel Carson's "Silent Spring," but they seemed amenable to straightforward and simple fixes.

Hole in the ozone layer? Find a substitute for chlorofluorocarbons. Acid rain and acid lakes? Reduce sulfur emissions and do it economically by creating a market for sulfur trading. An endangered rainforest? Create a protected area.

To be truly effective in most endeavors, including environmental work, it is important to lift one's gaze from the particular to assess periodically the overall state of the exercise. That can determine whether and how to alter strategy as new environmental problems emerge and understanding deepens.

Current indicators can only tell us about the moment, whereas we need to be cognizant of shifting environmental horizons — what could well become future baselines unless action is taken.

Doing so, one can only conclude that the environmental profession has changed from one in which simple and often local interventions would work, to one in which we have become planet doctors.

In the oceans and on land it is impossible to find a place unaffected by human activities. We live in a chemical soup

of our own making. Even in the Arctic and Antarctica, animals accumulate toxic compounds in their tissues. Rainforests and virtually all other natural habitats are in retreat. The number of endangered birds, mammals and plants is soaring from multiple causes.

Perhaps as many as one quarter of all amphibian species are endangered through a strange combination of factors, including a fatal fungal disease. With no tadpoles, some streams have turned bright green from unconstrained algal growth.

The great global cycles of carbon and nitrogen are badly distorted, producing, among other things, climate change and acidifying oceans from greenhouse gases plus multiple dead zones in estuaries and coastal waters. The rising temperatures are already stressing coral reefs. In some parts of Siberia, the

thawed permafrost bubbles with methane like a Yellowstone hot spring.

While there is enough on the planet's environmental horizon to make us all want to throw up our hands, as planet doctors we know diagnosis is just prelude to treatment.

There is a tremendous amount that can be done to right the imbalance without wrecking the global economy. Indeed the recent Stern report on climate change, whatever its flaws, clearly demonstrates that the implications of a deteriorating environment are more serious for the economy than the cost of addressing it.

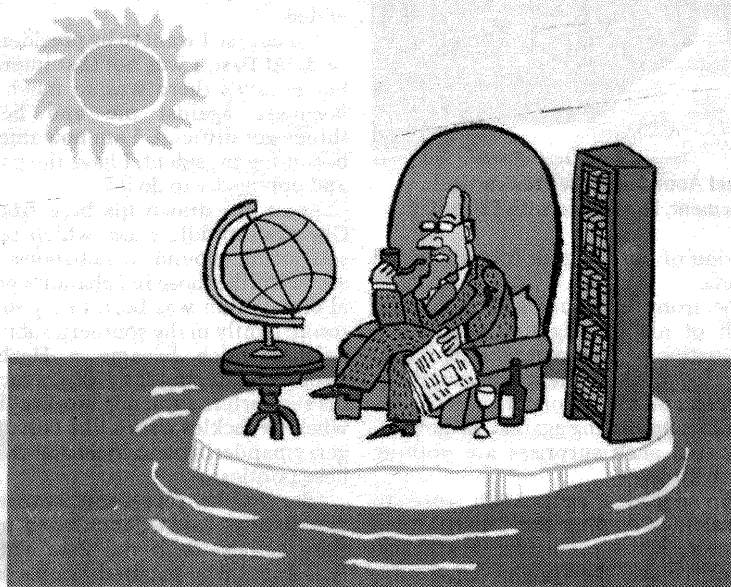
Action is required in all segments of society: Government needs to put the right incentives in place to encourage, for example, the right kinds of biofuels and other alternate energy sources. Individual human aspiration needs to be provided choices that are environment-friendly.

Clearly, there is an enormous role for the private sector. Happily, there are many signs that some companies view this as an opportunity. The aluminum company Alcoa, in one of the most energy-intensive industries, is seeking to make its Brazilian operations carbon-neutral and sustainable in other ways as well. Generators made by Caterpillar run on methane from landfills. Time magazine has analyzed the carbon in its product life cycle from tree harvest to disposal.

This is not the first time in our history that humanity has faced a huge and unprecedented challenge.

Environmental degradation is largely avoidable. It only requires us to take the planetary diagnosis as seriously as our own individual annual checkups, and rise to the challenge with all of our innate creativity.

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