The Tyranny of Population Growth

DANIEL H. PLETSCHER* AND MICHAEL K. SCHWARTZ

Wildlife Biology Program, School of Forestry, The University of Montana, Missoula, MT 59812–0596, U.S.A.

The proximate cause behind the decline of biodiversity is most often reduction or change of habitat and isolation of wildlife populations. In the western United States, as in much of the world, these problems can ultimately be attributed to increases in human population and per-capita consumption. This journal has published several articles concerning the burdens of human population growth (e.g., Meffe 1994; Gehrt 1996); indeed, we have not met many conservation biologists who are not firmly aboard the Malthusian ship. We argue that population growth also burdens personal liberty by creating a need for greater regulation. Parsons (1971) discussed the relationship between population and liberty; we extend that argument to conservation. People unmoved on the population issue with conservation arguments may be moved by our regulation argument.

The problems faced by conservationists have changed. One hundred years ago, the predominant problem facing wildlife in North America was overexploitation. Waterfowl, forest carnivores, and ungulates were exploited, largely for market, and were minimally regulated, to the point where most were near extinction. Deer (*Odocoileus virginianus*) populations were especially depleted and heading toward extirpation throughout the eastern United States. The American colonies began limiting hunting methods, seasons, and equipment in the mid-1600s to deal with overexploitation (Trefethen 1961). Passage of the Lace Act of 1900, which made it a federal offense to transport illegally killed wildlife across state borders, further defined the public right to wildlife and helped curb overexploitation. These regulations marked the beginning of the end of wildlife populations being considered unprotected public property. Unregulated taking had exacted a lasting toll on some North American wildlife. For example, the passenger pigeon (*Ectopistes migratorius*), which once flew in flocks of billions, was extinct by 1914, largely because of unregulated taking of pigeons for market (Blockstein & Tordoff 1985). At about the same time, carnivores such as lynx (*Lynx canadensis*) and mountain lions (*Puma concolor*) were exploited to local extinction in the northeastern United States (Godin 1977).

As the human population grew, wildlife conservation and management developed as an applied scientific discipline with a focus on reducing or controlling consumption by humans and increasing production of wildlife. Specifically, the works of Aldo Leopold, particularly *Game Management* (Leopold 1933) and "The Upshot" (in *A Sand County Almanac*, Leopold 1949), focused our attention on wildlife as a renewable but finite resource and halted our illusion of boundless wildlife populations.

As conservationists we can be proud of our many successes. Game species have rebounded, and predators—long maligned for their way of life—are making tremendous comebacks. Mountain lions have returned to much of their former range in the western United States and are slowly returning in the east. The wolf (*Canis lupus*) has gradually returned to the Rocky Mountains, and there is even an active campaign to reintroduce the grizzly bear (*Ursus arctos horribilis*) to parts of its former range. The U.S. public has demonstrated through laws, regulation, and private actions that it values these species and their habitats, at least in certain places and times, more than competing human uses. Our glaring failure, however, has been in treating the symptoms of wildlife conservation problems rather than their root causes.

The world's human population, currently approximately 6 billion, is growing (births minus deaths) at a rate of 3 people per second, or approximately 250,000 people each day (United Nations 1999). Natural resource managers must deal with this growth, and plant and animal life must adapt or perish. What happens when we compromise in the conflict between wildlife habitat and the demands of more people? The trade-offs almost always mean a net increase in the proportion of Earth's productivity allocated to human use and a net decrease in the proportion allocated to wild areas and wild life.

The effect of humans on our environment is a function of per capita consumption of resources times the number of people consuming those resources. In some cases we have done a fair job of convincing people to reduce consumption and protect some habitat. If, however, we reduce per capita consumption but the num-

*email pletsch@forestry.umt.edu

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ber of humans increases by similar or higher rates, what have we gained? In addition, if we protect some habitat but the human population increases by higher rates, what have we gained? We argue that we have lost: space per individual, wild species, and wild areas. In addition, by ignoring the population problem, we lose individual freedoms because of the need for increased regulation.

For example, 150 years ago, people in the western United States could harvest bison at any rate they wished. With an increased market and more harvesters, laws and regulations were enacted to stop overharvest (Trefethen 1961). At the turn of the last century, people could dump their wastes into rivers with little noticeable effect. Now, with an increased number of residents and more wastes per capita, laws and regulations are in place to maintain water quality.

We examined the Montana laws restricting fishing, hunting, and access to lands for these activities and found that in 1881 the general laws required only 19 sections of code and 3 pages of text (Montana Territorial Legislature 1881; Montana Legislature 1907). Today, Montana has 704 sections of code spanning 189 pages of text (Montana Legislature 1997). Population growth is not the only factor causing increases in regulations, but we believe it to be the primary and most overlooked, factor. We continue to pass more laws and regulations to control both supply and demand in an over-taxed system; thus, our individual freedoms are inversely proportional to our population. One of our most basic freedoms is our reproductive freedom, but uncontrolled population growth leads to a reduction in all other freedoms, a tyranny of population growth.

Despite this tyranny, taking away reproductive freedom is not morally acceptable, socially feasible, or politically possible. What we can do, quite easily, is raise awareness that human population growth is the cause of most of our environmental ills and leads to increased regulation. Few conservation issues are unaffected by human population pressures, and we must demonstrate these relationships. For instance, when talking about the effects of subdivided land on biodiversity, we can point out the root of the problem. When talking about problems of access on private lands or the institution of recreation fees, we can indicate why they are occurring. And when we discuss air-quality regulations that prevent open burning or require tougher industrial standards, we should discuss the ultimate root of the problem. The tradeoffs should be identified explicitly. Increased human population equals increased pressure for regulation. Furthermore, we must not only preach to the converted. These messages should be delivered to groups outside the Society for Conservation Biology, especially to those people who traditionally are uninterested in the outdoors but who have an interest in seeing government reduced. In other words, if population growth is the primary culprit hindering the conservation of biodiversity, we should not stop short of enlisting political groups who are interested for different reasons. Let conservation make strange bedfellows.

We must continue to encourage a reduction in consumption and work on increasing efficiency on those lands producing goods and services. We must also continue to encourage shared uses of our wild lands and natural resources. But if this is all we do, we will continue to tinker while our wildlife legacy is lost. We must point out to anyone who will listen—and to recognize ourselves—that human population growth is a grave threat to individual freedom and to all that we as conservationists hold dear. There are no easy answers, but education is a start.

Thomas Jefferson, the third American President and framer of the U.S. Constitution, argued that it is the responsibility of the current generation to undertake actions that will maintain the freedom of the next generation. By ignoring the population issue, we not only lose our valuable wild areas and wild life, but we infringe on the freedoms of the next generation.

> The earth belongs to each of these generations during its course, fully and in its own right. The second generation receives it clear of the debts and encumbrances of the first, the third of the second, and so on. For if the first could charge it with a debt, then the earth would belong to the dead and not to the living generation.
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> Thomas Jefferson (1789) (Foner 1944:589)

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