

POPULATION AND OUR NATURAL ENVIRONMENT

by **David H. Sheppard**, Biology Department, University of Saskatchewan, Regina

There are too many people in the world. Most Canadians do not really grasp the enormity of the problem, despite the frequent dissemination of information by television and the press. Such people should examine a copy of "*Readings in Human Population Ecology*" published by Prentice-Hall (Englewood Cliffs, New Jersey) and edited by Wayne H. Davis, an ecologist at the University of Kentucky. This comprehensive collection of articles will provide any reader with a thorough knowledge of the human population problem. Actually, the collection covers a group of problems all related to overpopulation, including present world population, predictions of population growth, world food supply, zero population growth, social attitudes toward birth control, the quality of life, vanishing resources, economic growth, abortion, family planning, and others. A variety of viewpoints is presented. The gloomy, but inescapable conclusion one reaches in reading the collection is that many, probably most, of the underdeveloped nations will never attain a standard of living comparable to that of North America because of an overabundance of people and a shortage of resources. Let us, however, consider the situation in terms of Canada itself.

The Canadian Population Problem

Canadians, even many of those who do regard world overpopulation as a serious problem, do not believe that the problem has anything directly to do with Canada. We have a large country and a small population. We are said to have vast natural resources and we tell ourselves that the future belongs to Canada. Yet we have 500,000 unemployed, half of whom are young people. To these frustrated unemployed, the country is already overpopulated in that there are too many people competing for too few opportunities. Yet,

for many this aberration is only the temporary result of faulty economics and will shortly be reversed.

Even if we accept the premise that Canada can and should support further population growth, this does not mean that there is no population problem. Our present population is about 21 million and has more than doubled since the 1931 census. Until very recently, our population was increasing at about 2% per year (Ehrlich and Ehrlich, 1970). During the last few years the growth rate has declined and may be as low as 1% per year, which is the present U.S. rate. At a rate of increase of 1% per year, the population will double again by 2040, within the lifetime of many of our children. At 2% per year it will double by 2005. Most of this growth will occur in southern Canada and the water, minerals, forests, and other resources of the north will be exploited and diverted to sustain it. Basically, southern Canada has indicated that it is fully prepared to follow the American pattern of high economic and low environmental priorities, despite the increasingly obvious fact that this approach has not led Americans to a life of quality and social well-being. Parts of southern Canada are already overcrowded. For example, few westerners would wish to live in Toronto or Montreal because of excessive population densities and associated problems such as pollution. Canada as a whole may be underdeveloped but certain areas are, according to the tastes of many Canadians, decidedly overpopulated.

Because Canada still has a relatively low overall population, the problem of population control is not so urgent as that faced by our neighbour to the south. Even if the United States were to adopt a policy based on replacement (birth rate equal to death rate) and allow an average of two children per

couple (zero population growth), their population would still increase to about 300 million before stabilizing. Thus, in order to halt population growth at a particular level, it is necessary to plan at least 30 years in advance and if the decrease in births depends upon public acceptance of government population plans, an even longer interval would be necessary.

How Many People Should Canada Have?

In Canada there is urgency to decide upon and adopt a long range population goal, preferably one that will perpetuate a Canadian natural environment of great variety and high quality. We have not yet asked ourselves the question, "How many people should Canada have?" Until we agree on the importance of this question, there will be no serious population, economic, or environmental planning in this country and any plans that are made will inevitably be ignored as the population expands.

How many people should Canada have? Developers, industrialists, real estate companies, businessmen, and governments (in fact, most of us) have a vested interest in growth, including population growth. In reply to the question, they are apt to say, "As many as possible." A minority of Canadians might espouse a different view. For example, a trapper in northern Saskatchewan might say, "There are too many people now." Such views as the latter are usually ignored because they run counter to the accepted definition of progress. Is it progress to destroy the natural environment in order to create jobs and thereby increase spending? Surely a better view of progress would give primary consideration to the long term life of the country rather than to short term exploitation.

How many people should Canada have? The question might be given a different emphasis by asking, "What is the optimum population for Canada?" By "optimum" is meant that number at which a maximum number of the population will have access to

a fulfilling life, a life with the greatest possible opportunity, health, and happiness in an environment that is stimulating, esthetically pleasing, and as diverse and interesting as possible. A population that surpasses this hypothetical optimum does so at the expense of one or more of these elements.

The optimum population (Figure 1) can not be exactly determined but it should be possible to make a series of estimates using different measurements of environmental quality. For example, one might attempt to estimate the area of National Parks required to sustain various population levels. The estimates would necessitate assumptions about the amount of crowding that can be permitted without impairing the enjoyment of park visitors and spoiling the wilderness aspect of the parks. An estimate of optimum population could then be made based on an assumed level of environmental quality in National Parks. The desired level of environmental quality can be estimated from public opinion surveys, as well as studies of human impact on natural environments. In this case, the optimum population for the country will depend on how many square miles of National Park land we are willing to

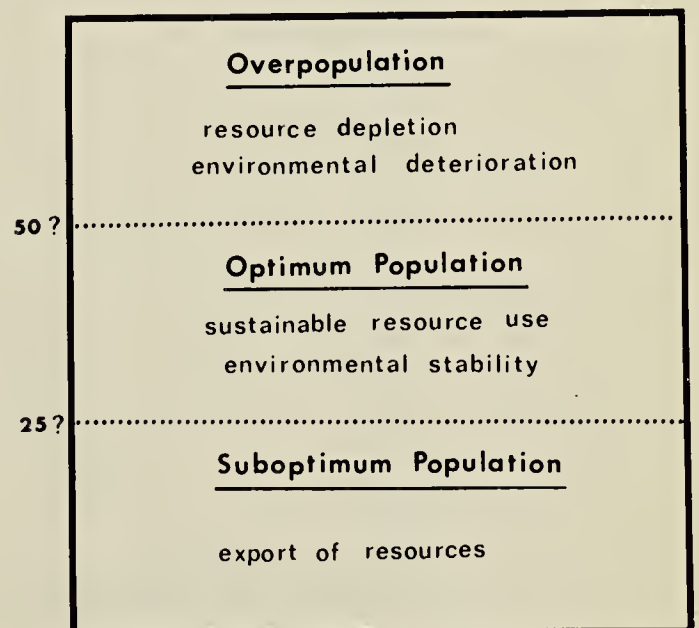


Fig. 1 The optimum population for Canada. The range 25 to 50 million is merely a guess. Sophisticated estimates of optimum population will require large scale public opinion surveys, scientific studies, and computer analysis.

set aside. In a similar way, other estimates can be made based on hunting, fishing, boating, hiking, wilderness travel, wildlife preservation, and so on, each affording a separate estimate of the optimum population. The final estimate of the optimum population must then consider all potential uses of the natural environment. Obviously, the problem soon becomes exceedingly complex.

Governments have made no attempt to estimate population optima. To do so will require placing primary value on environmental quality as opposed to environmental exploitation and valuing the quality of life above the Gross National Product. There is some basis for optimism in the return of some young people to a simple, self-sufficient, agrarian way of life. It may reflect a new respect for the natural environment and in time could spread to the population in general (Reich, 1970).

Outdoor Recreation—The Key to Determining Optimum Population

If the explosive growth in demand for outdoor recreation indicates anything, it indicates a need by man for contact with nature. This need, I believe, should dictate a definition of environmental quality, and consequently provide the key to determining Canada's optimum population. We must try to estimate how many parks, lakes, rivers, and wilderness areas we will need in the future to satisfy the demand of Canadians for contact with nature. Furthermore, this estimate, when arrived at, can only be an approximation and therefore it behooves us to reserve too much wilderness rather than too little.

Any estimate of our future natural area requirements must be based on low density use. It is not satisfactory to subject park users to crowded beaches, tent cities, and noisy weekend

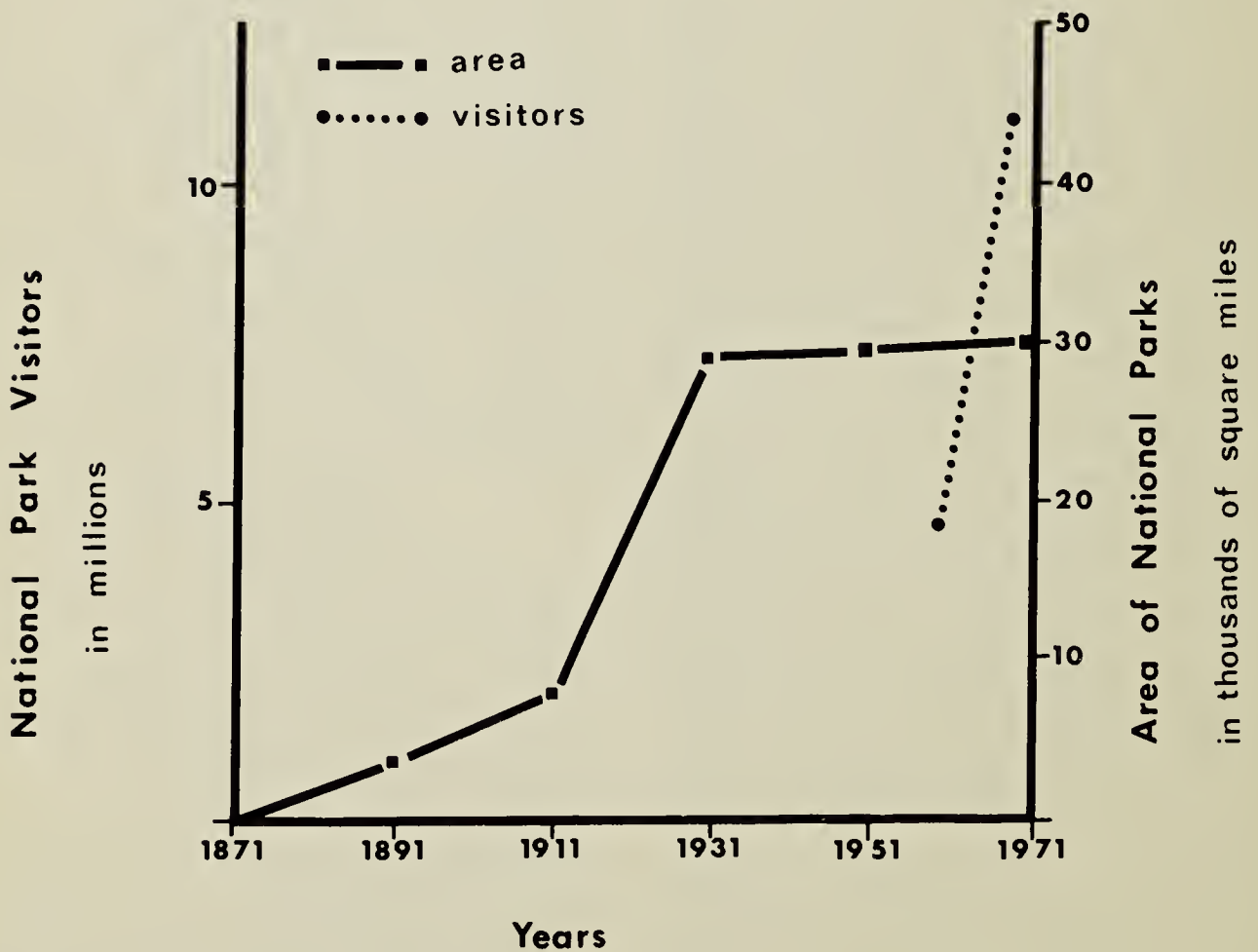


Fig. 2 Canada's National Parks. Growth in area (1871-1971) and number of visitors (1960-1968, earlier data unavailable). Use of the parks has increased sharply in recent years but park expansion has not kept pace. (Data from Canada Yearbook).

parties. Such conditions do not fulfill the need for a natural environment of high quality and lead only to frustration and disappointment.

In my opinion, we have greatly underestimated the amount of park and natural lands needed to provide for our recreation needs. Any visit to Banff National Park in July and August will attest to the overcrowding in that park. Since 1931 very little area has been added to the National Park System and since 1960 park visitations have increased at a remarkable rate (Figure 2). These two related facts have already caused considerable deterioration in the quality of our mountain parks. Any reversal of this deterioration must depend either on restricting the number of visitors to the parks or on creating new parks or both.

What kind of Environment do Canadians Want?

Estimating the optimum population for Canada will not be easy. The components of the analysis depend on a thorough study of the attitudes of Canadians toward their environment. What do Canadians regard as an environment of high quality? As an example of a more specific question, an attitude survey might ask, "Do most Canadians live in cities because they prefer them or because their jobs necessitate their doing so?" The development of suburbs, the preference for large acreages rather than small lots, and the mass exodus of city dwellers to the country in the summer all suggest that the environmental quality of our cities leaves something to be desired. At present, many urban Canadians cannot afford a summer cottage, or even a vacation. The just society of the future should allow everyone that possibility and reserve high quality natural environments for that purpose.

The ultimate definition of environmental quality, arrived at by planners, must not be a simple-minded evaluation based on majority opinion. Rather, their goal should be to satisfy all needs for outdoor recreation, as well as to

conserve natural environments for the future. If, for example, surveys show that the majority of Canadians require only picnic tables on weekends for outdoor recreation, this does not justify the complete elimination of wild country. A valid assessment of attitudes toward environmental quality should aim at maximizing the variety and diversity available in our environment. It should provide the greatest possible variety of choices in outdoor recreation. Fortunately, nature has done an admirable job in creating diversity. Our job is to maintain it.

Long Range Planning is Required

Estimating and attaining the optimum population for Canada will require immediate commitments by federal, provincial, and local governments to long range planning. In Canada, at present, we have no long range plans for most of our natural environment just as we have no long range economic plans and no long range plans for resource utilization and population growth. The best minds in the country should be tackling these difficult problems with an integrated approach (because the problems are interdependent). As citizens we must pressure governments to initiate planning studies. As spokesmen for Canadian wilderness we must persuade governments to surround essential areas of wilderness with firm legal boundaries to prevent exploitation and environmental damage. Governments must specify those rivers that will be free of dams and pollution for all time, those areas that will be free of roads forever, those caribou herds which are to be preserved along with their traditional migration routes, those salmon populations to be maintained, and so on. It seems to me that Canadians want a future filled with more than beer, traffic congestion, acid rock, and television football. If not, there is little hope even for that natural part of Canada which still survives.

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