



(Photo by Ed Bry, North Dakota Fish and Game Department)

PROTECTING OUR QUALITY OF LIFE

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Within the environmental crisis we face today, the one major basis of our problem is overpopulation. Pollution problems evident in water, air and land are simply symptoms of a central cause: too many people. Facing the reality of overpopulation and the resulting pollution problem is of vital importance. It is even more important for each individual to make necessary attitudinal changes and continue taking steps to stop overpopulation.

The first step to be taken in saving our environment, or indeed man himself, is to realize and accept the fact that there are and will be too many people for the earth to support satisfactorily. In order to approach this basic problem, a concerted effort must be made to reasonably determine the carrying capacity of given land areas and cultural life styles.

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As an example, at one time in history a high birth rate was essential to man's survival. He had to utilize natality and immigration, which increase population density, to combat the more frequent mortality and emigration, which decrease population and could result in extinction in a particular area, or even the world.

To fight against an environment which he could neither understand nor control, man simply reproduced in sufficient numbers for growth and progress. In the predominantly agrarian society, it was profitable to have a large family of six to 12 children. If the area became too populated, part of the family moved on and started anew where there was enough land and work to make large families profitable once again. Europe moved to America, the east coast moved to the west, and eventually the land ran out.

The large family attitude apparently is still with us, since those of reproductive age remaining

in North Dakota have one of the highest fertility rates in the nation. We simply export our surplus to other areas of the country. But at the same time our life style demands more from the environment, which adds to the population pressure and pollution. When our native sons and daughters settle in suburban areas, they find it no longer profitable to have 10 or 12 boys to do the dishes and carry out the garbage. Therefore, in developed countries average family size sometimes decreases while in underdeveloped countries, which still fight many of the same problems we had years before, family size remains constant or increases.

This small decrease of family size in developed countries may seem encouraging or give a false security of relative safety from overpopulation. But there is no safety in that surmise, and no individual should delude himself into this belief. Facts and illustrations of man's doubling time will hopefully shatter any illusions of safety without preventive measures.

Doubling Time is Decreasing

The doubling time of man refers to the number of years it takes for the number of people on the earth to double. In man's population growth the doubling time is steadily decreasing. This is leading man rapidly toward the dangers of an environmental crisis. When man was a berry-picking, grub-eating individual, it was estimated the earth could support two or three million people, literally living off the land by collecting grubs, nuts, berries and wild game for food. It took one to two million years for man's first doubling time and for him to reach a population of approximately 5 million people. During the time it took man to go from a population of 5 million to 500 million, he was doubling approximately every 1,000 years. But after 500 million was reached, the doubling time decreased to approximately every 200 years, once every 80 years and, finally, the present rate of once every 35 years. By the year 2000 the number of people on earth theoretically will double every 15 years, to 7 years, to 3½ years, until it will occur every year, or even at six-month intervals.

We know these huge numbers of people are impossible, even though scientific and social changes have increased the support capabilities of the earth. This seeming increase of our support capacities may give us a false sense of security, when actually many of our technological advances continually upset the delicate environmental balance. These upsets raise serious questions concerning

their ultimate effect on man and challenge us to redefine our visions of growth and progress. India alone is contributing 12 to 14 million people a year on top of a population that is at present unsupportable at a quality level. By the year 2000, the potential is for a population of 6 to 7.5 billion people on the earth if we continue at the present birth rate. The population of China alone will exceed one billion people by the year 2000. Taking a conservative doubling time of 35 years, 60 million billion people will exist in the year 2900.

The earth cannot support this many people, and the symptoms of this inability are fast becoming apparent in the present pollution problems facing man. Population is the crucial cause of pollution. The more people you have, the more items you have for pollution. When we were a population of 100 million in this country, nature could take care of man's carelessness. But now the numbers have increased beyond the possibility of natural control and problems accrue in nearly all areas.

Man is part of a natural system and is ultimately tied to the limits of that system. Unless we realize our predicament immediately and set population stability and implementation of a life style compatible with the natural system as our prime goals, we may commit voiceless future generations to misery and death on an overcrowded planet.

The earth cannot support the present population satisfactorily. If estimates of future populations materialize, by the year 2000 life on this planet will be so degenerate that man will detest his very existence. Man can either accept or reject the responsibility he has for future generations.

Not Responsible for Future Generations

Many believe the living pattern of today's society and the steps man has taken to solve pollution are satisfactory. If this is the case, these people must be able to honestly say they have no responsibility for future generations, because they have turned the human race into the very real path of eventual extinction. Since their solution to pollution is extinction, they are correct in believing today's methods of solution will solve the problem. But if man awakens to his situation, he will accept the responsibility of insuring continuation of the human race and of providing an adequate environment wherein he may live.

At one time unlimited capitalism was an advantage to man. He needed to populate and develop the country in which he lived. But we no longer need this system. We are overpopulated and un-

limited expansion cannot go on, for we risk depleting our energy supply entirely. It is time for the population consumption and economy to stabilize. Now man needs to limit himself and what he uses to exist in harmony with nature.

Feeding the People is No. 1

Since we cannot ship excess population to another earth, we must seek to solve the problems endangering them on this earth. The first problem is that of feeding the people. Millions are starving, and this problem will continue to grow with increased population. It has been suggested that man should become a first-order consumer. In nature there is a definite cycle of nourishment. The sun provides energy for vegetation, which is eaten by such first-order consumers as insects, mice and rabbits. In turn, certain birds, snakes and weasels, which are second-order consumers, eat the first-order consumers. A third-order consumer eats the second order and so on. Man, being omnivorous, eats something from all orders, but in the developed countries his appetite dictates selection from the upper feeding levels. The problem is that energy, so plentiful in the green plants, lessens greatly in total quantity as it is passed from order to order through different animals. As energy is passed from level to level some of it is lost due to respiration, heat loss, and normal activity of the life process. Thus the organism can incorporate only a small percentage of the energy he consumes in his own body and he therefore can pass on only a small percentage to the next level.

This theory will not succeed in solving the hunger of our rapidly growing population for many reasons. First, man and his form of diet and nourishment are part of nature's balance. By removing the "middle man" or the uncontrolled consumption of other orders, we are interfering with nature's balance and must face the consequences. Overpopulation will also cause a problem. The phytoplankton of the ocean provide approximately 70 per cent of the oxygen supply. At present, we are depositing a great deal of our run-off in the ocean, including pesticides, herbicides, fertilizer, and waste materials. Even though man probably does not depend upon the ocean organisms for the air he breathes, he continues to endanger these organisms through his ignorance of what his run-off materials are doing to the ocean organisms. In addition, man is covering up vast areas of land with plastic, concrete and asphalt to give himself a more convenient existence. In reality he is limiting that

existence and endangering nature's originally adequate system.

As usual, a few people will refuse to believe there will be a food shortage. The actual discrepancy is in the geometric growth of population. The population base changes every year. Population growth may go from two per cent of a billion to two per cent of a billion and a half, growing like compound interest. In food production the base stays the same. There is only so much land to be used for production, and this amount will not increase as the population increases. Land may be brought into production at the expense of the natural ecosystem, yet a million acres a year of mostly rich agricultural land is taken out by progressive growth. Hybrids may help out and increase yield but the production of food and the reproduction of people will never intersect. Our present agriculture practices of using pesticides and inorganic fertilizer may seem to ease the food shortage, but they cause pollution problems for the future.

What can be done? Man must learn to live in harmony with his environment. He cannot change it according to his every whim. He must control the population and take steps to stop excessive pollution. This can only be accomplished through drastic changes in the present attitudes of today.

Birth and Death Control

The first areas in need of change are those of birth and death control. Death control is highly moral, fashionable and profitable, and some of the public say that Christian principles cannot condone birth control.

Partial help for the solution may lie in improved foreign policy. Before delivering medical aid and technology to fight starvation, underdeveloped and overpopulated countries must accept birth control measures. If this is not accepted, the people must be left to starve in order to halt overpopulation. The policy is harsh; but the only way to save the human race is to practice death control only in accordance with birth control. Such a practice would make a large difference in the population explosion in other countries, but the greatest change in our country is to be found in the results of legalized abortion and sterilization.

Tax laws and welfare programs are also detrimental to the population problem. By raising the exemptions for dependents to \$750, Congress provided an incentive for larger families. If exemptions were graded, allowing \$1,000 for the first child, \$500 for the second and a sliding penalty scale based on income for those thereafter, the problem

would be helped. Welfare programs should be similarly programmed. Instead of supplying \$50 per month for every child born, \$1,000 could be given for every year a child is not born. Another plan could provide an economic bounty of \$10,000 to be paid to all women after menopause for no children (or after sterilization), \$5,000 for stopping at one, \$2,500 for stopping at two, and no payment for more than two.

Smog and Air Pollution Control

Smog and air pollution are first on the list of national concerns, so elimination of this problem should be welcome; but is it? Convenience is the main reason for the existence of transportation. Most people will not be willing to abide by the following recommendations. Business areas should be entered only by mass transportation media, such as monorails or street cars. Absolutely no cars should be allowed in the city limits. Railroads could be developed into an efficient, dependable system. Finally, the horse power of all vehicles should be limited.

Recreation goes along with transportation. Motor boats, motorcycles, and snowmobiles are responsible for a good part of today's pollution problem. We need to question seriously our unlimited leisure-time use of a nonrenewable resource—oil.

Learning to live with nature rather than against it may be the key to solving most pollution problems if population is controlled. At present, the land on which we live has been grossly misused, partly due to ignorance but also for the sake of convenience and profit. Up until this time, man has been considered by the courts to be innocent until proved guilty. But in the case of pollution, industry as well as man-made chemicals should be considered guilty until proved innocent beyond a reasonable doubt. Possibly then we would consider the long-range results of our actions.

Land Lost to Highways and Houses

Residential areas are good examples of land misuse. Excellent areas which are prime for agricultural purposes are being forever lost as they are given up daily for highways and houses. The best orange grove lands around Los Angeles have been sub-divided and sold for housing. As a result, irrigation must be employed at great cost to force unsuited land into production. The irrigation may leave salts upon the land and turn it into a desert. Should this marginal land be used for agricultural purposes more in keeping with the natural system? Remember, land, in many cases, was taken out of production to provide irrigation water for another area. Long-term planning for both areas may have been better suited to utilization according to their

ecological potential. Once again, man is trying to force nature into his own mold and the results can be destruction and hardship for all.

The chance to solve the problems of land misuse may already have passed us by. If there is any chance for correction, steps must be taken immediately. The ecologist, engineer, sociologist, and economist must band together and consider all areas and factors necessary for man to live in harmony with nature. Then, with correct and unselfish programs advanced, the people as a whole must band together to accomplish the task. Even though the establishment of suitable areas for residence, industry, agriculture and recreation may be expensive and inconvenient, it is necessary if man is to stop total destruction of his environment, without which he cannot live.

The life man leads today is not his own. At present, it belongs to the pollutants which will eventually destroy him. Air and water fit for consumption are fast decreasing. Concrete, steel and asphalt replace the luscious palette of nature's ever-changing colors. Man, created to breathe clean air, drink and enjoy good water, and enjoy the adventure of his natural surroundings, has changed his environment at an alarming rate. To many very serious and dedicated people he is preparing his own mass execution.

Can Man Become Extinct?

Is there no hope? Is it possible that man, a supposedly intelligent being, could become extinct? Unless man faces the fact that his pollution problems are a result of over-population and life-style attitudes, he will be extinct long before the timespan in which the dinosaurs met their end (150 million years). Our problems boil down to common sense. Our present attitudes are leading man to what many scientists consider a path toward a lowering of our environmental quality and even to complete destruction. Others predict technology (whose unquestioned use got us into our trouble) will solve the problem and there is no need to be overly concerned.

If a mistake is to be made in choosing a path of destruction or caution, which one would common sense tell you is the most logical? The "practical" people who realize the problem but do nothing about it must be convinced; they must face reality. Only birth control practiced by all, employment of immediate polluttional remedies, and life style changes can save man now. Can he face the situation intelligently? Can he forego convenience and archaic attitudes for the sake of his own survival? He must, or we will witness the last of the most advanced species ever to inhabit the earth.