# UNITED STATES
# DEPARTMENT of the INTERIOR

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OFFICE OF THE SECRETARY

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SECRETARY UDALL TESTIFIES ON PESTICIDE PROBLEMS, WARNING OF ENVIRONMENTAL HAZARDS

Secretary of the Interior Stewart L. Udall testified May 22 before a Senate Subcommittee on the need for a sound conservation solution to the over-all pesticide problem. The text of the Secretary's statement before the Senate Subcommittee on Reorganization and International Organizations of the Committee on Government Operations follows:

> Your Committee is to be commended for its very timely study of the environmental contamination that may now be taking place as result of extensive use of pesticidal materials, household and industrial detergents and other synthetic chemicals.
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> These products of modern industrial technology have contributed directly and indirectly to the health and welfare of mankind. They have unquestionably aided materially in increasing the production of food and fiber and have added to the convenience and comfort of modern living. The continued and growing use of these powerful chemical tools to control man's environment demands, however, that we examine much more carefully than we have in the past their potentialities and both the immediate and long range effects of their use. We must make certain that we learn enough about these new management tools--on the basis of solid scientific facts and evidence--to be sure they do not actually in the long run undermine the very objectives we are seeking.
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> The problem facing your Committee is not the need for the use of chemicals to control pests or to serve other needs of mankind. The basic question is "How can they be used without harm to man and the living natural resources upon which he depends?"
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> In her recent book, "Silent Spring," Miss Rachel Carson, a far-sighted and alert writer, has awakened the Nation and has reminded us with compelling urgency that man is part of the balance of nature, and no matter how much we alter that balance, we still are a part of it. She has asked a searching series of questions--and her book is a timely warning to man that he cannot manage nature with impunity. The as yet

unknown implications of the continued and expanding use of pesticides need careful, objective research if we are to know where we are heading. Although her critics have protested the inadequacy of certain data cited in her book, they have not, to my knowledge, challenged the fact that she raises genuine issues.

Shortly after the first public use of DDT at the close of World War II the Department of the Interior undertook studies to appraise the effects of this chemical and pesticides upon fish and wildlife resources. Many of the findings from this research have subsequently been described in detail.

The Department of the Interior has pioneered on several important fronts and with gratifying results. But the need for more research is urgent and growing constantly more so.

There is evidence of contamination in our environment by a growing number of highly stable pesticidal chemicals and their degradation products. One example is the residues of DDT, DDD, and DDE discovered in a large percentage of body and liver oil samples taken from marine fish and sharks caught far from land. The pesticides ran as high as 200 parts per million in the fatty tissues of these far-offshore creatures. Similar residues have been found in tuna and other ocean fishes that rarely come close to shore. One of the mysteries that needs research and understanding is how this insecticide came to be found in halibut taken from the North Pacific Ocean and in a variety of other fishes caught off the coast of Norway.

The situation on land is as disturbing as at sea. Of 2,300 specimens of birds and mammals from 22 States and three Canadian provinces collected by biologists of our wildlife research center at Patuxent, 1,753, or 75 percent have been found to contain varying amounts of these residues.

We now know that residues of the insecticides, heptachlor and DDT, have been found in 322 out of 469 specimens of woodcock analyzed during recent years and that the average concentrations of these chemicals in their tissues has been increasing since 1958. Woodcock are cherished as a game bird by many sportsmen. Since there is a zero tolerance for heptachlor in domestic meats, is it safe to eat game that contains detectable amounts of the chemical?

Similar questions are also being raised in the State of California where levels upward of 2,000 parts per million of DDT have been found in the fatty tissues of pheasants collected near rice fields that are heavily treated with this insecticide. In view of the tolerance of not more than 7 parts per million of DDT permitted in domestic meats, game birds taken from agricultural areas heavily treated with certain insecticides may not be deemed suitable for human consumption. Should this happen, thousands of acres of prime wildlife habitat may have to be closed to hunting.

In addition to exposure to certain pesticidal chemicals within the continental limits of the United States, there are growing indications that waterfowl and other migratory birds are coming in contact with some of these materials in other parts of the world. DDT and its degradation products have been found in duck eggs, ducklings, and vegetation collected from the Yellowknife regions in Northern Canada, many hundred miles from any known treated area. Similarly, this same chemical has been recovered from 31 of 32 field specimens of eagles collected from many parts of the continent.

In the case of marine fishery resources, laboratory studies reveal that oysters are capable of concentrating high levels of DDT within a very short period. Following exposure to levels of one part per billion of DDT for one week, oysters were found to contain 132 parts per million of the chemical in their bodies. After being transferred to an unpolluted environment for a period of seven weeks, specimens still contained 44 parts per million of the chemical. In view of this the Department of the Interior representatives on the Federal Pest Control Review Board recently opposed the further use of this compound for forest insect control in the Willapa Bay region of the State of Washington. Arrangements are being made with representatives of the Forest Service and the chemical industry to evaluate substitute control materials that do not pose comparable hazards to a $3 million oyster industry in the area.

Other studies by the Department's Fish and Wildlife Service indicate that a number of the widely used pesticidal chemicals have adverse effects on the reproduction and survival of fish, birds, and animals. Hence, aside from the immediate mortality frequently observed following applications of pesticidal chemicals, the long-term effects may well be much more serious. The evidence suggests that many of these losses occur even when the pesticides are used in accord with directions on the label. I therefore strongly endorse the recommendation that the mechanism by which pesticides are cleared for use by the general public be strengthened.

One of the greatest needs in this area is for more knowledge concerning the toxicities of pesticides with relation to the many different kinds of fish and wildlife that inhabit land and water areas exposed to treatment by these chemicals. In an effort to provide such information, legislation has been introduced by Congressman Dingell and supported by other members of the House and Senate which would provide for the establishment of a chemical screening and evaluation program. The goal of this program would be to learn the limits under which pesticides can be used safely and to facilitate discovery and development of new chemical pesticides that are highly selective and short-lived in their action.

There is also need for a much better understanding of the biological and physical mechanisms through which pesticidal chemicals are distributed widely in the natural environment. This will require additional research on the food chain of both aquatic and land animals and specific investigation of land drainage and atmospheric circulation in relation to water and air transport of these chemicals.

In short, we are aware of the dangers and the need for caution and knowledge. And we are trying to supply some of the answers.

In accord with the President's instructions, we are carefully reviewing the recent report to the President and will shortly submit specific legislative and procedural recommendations fully to implement that report.

We are particularly interested and encouraged by the President's Committee's final recommendation--for a program of public education on the use, benefits, and dangers of pesticides.

This recommendation strikes at one of the most difficult but essential elements of this problem--bridging a great communications gap between often highly technical scientific data and public grasp of the implications. We strongly agree with the Committee's report that new and expanded efforts are needed to better inform the people of the Nation about these factors that are so important to their recreation, health, and welfare.

We must go even further in expanding our present programs involving various aspects of the pesticides problem. We must work much more closely with research entomologists to bring about the discovery and development of less hazardous control methods. We must not only look to the chemical industry for new chemicals that are more specific and short-lived in their effects but we must also place much greater emphasis on other procedures such as biological control.

The highly durable synthetic pesticides such as the chlorinated hydrocarbons (DDT and related products) may be having effects on our total environment which are not now known.

Many scientists share the belief we may be intervening in the natural world without being aware of the consequences. Some of the results may be irreversible in terms of the effect upon our environment. These durable organic pesticides are also dangerous because of their "broad spectrum" effect--the fact that they are not selective, but rather kill many kinds of living matter beyond the target.

While pesticides are now applied to one acre in 12 in the United States each year, there is practically no place on earth wherein the residues of these materials are not found--in soil, in water, and in the tissues of living matter.

I am also requesting this Department's representatives on the Federal Pest Control Review Board and other interdepartmental organizations concerned with pest control to examine their present roles and submit recommendations as to how their effectiveness can be strengthened.

Recently, the National Academy of Sciences in its report on Natural Resources observed:

"Science and technology enter into a new role. Rather than merely being an aid to resource conservation, they are now seen as charting the route to a principal avenue of solution."

And again, in the same report:

"The effects on man himself of the changes he has wrought in the balance of great natural forces and in the new microenvironment which he has created are but dimly perceived and not at all well understood."

We certainly agree with your Chairman that it is time to stop for a look at where we have been, where we are, and where we are going. We cannot continue to pollute our environment if we are to keep this earth habitable.

Last year President Kennedy said:

"We must reaffirm our dedication to the sound practices of conservation which can be defined as the wise use of our natural environment; it is, in the final analysis, the highest form of national thrift--the prevention of waste and despoilment while preserving, improving and reviewing the quality and usefulness of all our resources."

I am confident that this committee's study will help lead the Nation toward a sound conservation solution of the over-all pesticide problem.

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