

UNITED STATES  
DEPARTMENT of the INTERIOR

★ news release

OFFICE OF THE SECRETARY

Rettie - 343-5635

For Release APRIL 8, 1964

UDALL CITES PESTICIDE DANGER

Secretary of the Interior Stewart L. Udall today cited growing evidence of widespread environmental contamination from pesticides and called for a nationwide pesticide monitoring program and an end to the use of highly toxic chemicals whose spread cannot be controlled.

Testifying before a special Senate subcommittee hearing called by Connecticut Senator Abraham Ribicoff, Secretary Udall said the problem of pesticides had become even more acute in recent months and that new data were strengthening earlier warnings and demonstrating new hazards to man and wildlife.

The Secretary noted new evidence that DDT is responsible for the failure of lake trout to reproduce and reduced reproductive success among several species of birds including pheasants, eagles, and black ducks. The most disturbing evidence now being accumulated, the Secretary said, points to the widespread existence of chemical pesticides following their use under "normal" and "controlled" conditions. Much data including that relating to recent fish kills on the lower Mississippi River does not relate to accidents or deliberate misuse, but are the apparently uncontrollable effects of widespread "normal" pesticide application.

Secretary Udall called particular attention to the danger posed by pesticides to the commercial fisheries of the lower Mississippi and Gulf Coast areas. Shrimp and other shellfish are almost unbelievably sensitive to certain pesticides, the Secretary said. The fishing industry--like the consumer in the supermarket--has no control over the way in which pesticides reach his product. Tens of thousands of jobs and millions of dollars of valuable fishery products may ultimately be at stake, Secretary Udall emphasized.

The text of Secretary Udall's statement is attached.

x x x

STATEMENT BY SECRETARY OF THE INTERIOR STEWART L. UDALL  
BEFORE SENATE SUBCOMMITTEE ON REORGANIZATION AND INTER-  
NATIONAL ORGANIZATIONS OF THE COMMITTEE ON GOVERNMENT  
OPERATIONS, APRIL 8, 1964

I welcome this opportunity to appear before your committee. When I testified here last May, I stated that the question we faced was one of judicious use of pesticides. Intervening events have strengthened this conclusion -- and the need for tighter regulations, more research, and closer monitoring.

I should like to define exactly what I mean by judicious use. To me accidents and deliberate misuse are the most obvious, but most easily prevented, breaches of judicious use. The most vexing problems are those that stem from unexpected results of approved uses of pesticides.

Barry Commoner, in a talk entitled "Scientific Statemanship," before the National Conference on Air Pollution in December 1962, stated the problem succinctly. He said, "I believe that the history of modern pollution problems shows that most of them result from the same general fault. We have been massively intervening in the natural world, without being aware of many of the biological consequences until the act has been performed, and its effects--which are difficult to understand, and sometimes irreversible--are upon us . . . . The size and persistence of possible errors has grown with the expending power of modern science.

"One can also argue that the hazards of modern pollutants are small compared to the dangers associated with other human enterprises--such as automotive traffic. But no estimate of the actual harm that may be done by smog, fallout or chemical residues can obscure the sober realization that the risk was taken before it was fully understood. The importance of these issues to science lies not so much in the technical difficulty of estimating the associated hazards, but in that they warn of an incipient abdication of one of the major duties of science--prediction and control of human interventions into nature. The true measure of the danger is not represented by the present hazard, but by the disasters that will surely be visited upon us if we dare to enter the new age of science that lies before us without repairing this basic fault in the scientific enterprise."

Last May, I cited a number of examples demonstrating a widespread presence of pesticides in fish and wildlife. I should now like to call your attention to some additional examples and to suggest some of their implications.

When I was last here most of the information available related to the presence of pesticide residues. There were few evidences of the significance of their presence. The intervening months of research have yielded some suggestions. I shall not dwell upon the Mississippi River problem for this will be considered at length by other speakers. I must point out, however, that members of my Department retained close contact with the Public

Health Service from the time this investigation was started in November 1963. They also received information pertaining to the kill from State wildlife authorities in Louisiana. In early January 1964, the Eastern Fish Disease Laboratory of the Bureau of Sport Fisheries and Wildlife received and analyzed fish provided by the Public Health Service, and ruled out the possibility that parasites, bacteria, or a virus caused or contributed to the deaths of the fish. We were not able to assist in the chemical analyses because of a lack of existing laboratory facilities.

Fortunately, Congress has provided funds for a new fish pesticide laboratory at Columbia, Missouri. Funds for design have been provided earlier, and \$735,000 of construction funds have been approved by the House and the Senate Appropriations Committee for use beginning July 1964. At this laboratory, we will be able to undertake intensive studies of the problems generated by the use of chemical pesticides and their effects upon fish and aquatic organisms.

The Mississippi River situation, extensive as it may be, is not unique; rather it is symptomatic of conditions in many parts of our country. In New York State studies initiated in 1956 have demonstrated conclusively that the failure of lake trout to reproduce in many lakes is caused by DDT. Investigations showed that levels of DDT of more than 3 parts per million in lake trout eggs result in virtually complete mortality of the fry. DDT levels of this magnitude have been found in most samples from Lake George

and from many other lakes in New York. And the situation is not restricted to New York. Evidence accumulated in New Hampshire shows DDT levels in lake trout sac fry comparable with trends in New York, and associated with abnormal mortalities of the fry. In the State of Maine, land-locked salmon from Sebago Lake have been shown to contain relatively high residues of DDT and eggs from some lots of these fish have residues of 7.5 parts per million. Associated with these residue levels has been an apparent increase in fry mortality; results are not yet conclusive, however.

Another effect of DDT in sublethal doses is an apparent shift in temperature selection of Atlantic salmon parr. Fishes exposed to very small amounts of DDT (10 to 50 parts per billion) selected temperatures as much as 25 degrees higher than normal. Although these figures result from laboratory studies, their implications are considerable. Should

the same situation occur in the wild, salmon might in fact "prefer" temperatures which are higher than occur in some waters and migratory patterns would be changed.

Adverse effects of pesticides on reproductive success of birds have been shown in laboratory experiments. However, one of the first demonstrations of similar effects in the field appeared in a recent study of California pheasants. Eggs from untreated land on a refuge and from treated agricultural lands nearby were collected and incubated. Production of 4-week old chicks was significantly greater among eggs from the untreated area. DDT residues in eggs from the treated area were much higher than those from the untreated area.

The possibility of similar effects on black ducks is suggested in recent pilot tests in our Department, although data are still incomplete. A survey of eggs of wild black ducks showed DDT residues in 36 of 37 clutches taken in 8 States from Maine to Maryland. Individual clutches averaged as much as 14 parts per million. Experimental studies showed that in the closely related mallard duck, birds on diets producing about 2 parts per million of residues in the egg had significantly lower hatching success than the birds on clean diets.

Deleterious effects of pesticides on reproductive success of golden eagles in Great Britain were documented in a publication last month. Part of the failure to produce young apparently, was tied

to egg destruction by the birds themselves, and an adverse effect of pesticides on behavior was suggested as an explanation.

In my previous testimony I mentioned residues of pesticides in the flesh of edible fish and game. Evidence of the widespread nature of such occurrences continues to accumulate. The serious factor in this accumulation is that it often follows what previously had been considered routine and, therefore, harmless levels of pesticide use. For example, measurable residues have been found in blue grouse in Montana following application rates of only 1/2 pound per acre of DDT - well under amounts that have been used in other programs. (Thirteen grouse samples ranged from 6 to 84 ppm and averaged 30 ppm.)

Deer and elk also have been found to contain residues of these materials following low rates of application and, as I mentioned before, here is the tie between wildlife and human health. Wild game is not a major part of the diet of most people but the problem of residues in fish and game clearly must be acknowledged and determinations made as to the significance of these levels. My Department is working closely with the Food and Drug Administration to analyse this problem.

Through our Bureau of Commercial Fisheries, we are also watching closely the effects of these environmental changes on the fishing industry. This industry, like the consumer at the market,

falls in the role of innocent bystander, with its products potentially contaminated by applications of pesticides made many miles away. Unlike farmers, our commercial fishermen do not use the pesticides themselves and they must depend on effective governmental action to prevent damage to the resources they depend upon for a living. Should our fishery resources be drastically reduced or fishery products become contaminated by pesticide residues, to the point of being unfit for human food, thousands of fishermen would join the ranks of the unemployed.

Our research on commercial fish and shellfish shows that these species are very sensitive to many of the commonly used pesticides. DDT at a concentration of 0.007 parts per million will reduce growth of oysters to one-half that of untreated controls in 96 hours. Endrin at 0.0006 parts per million will cause death or paralysis of 50 percent of the shrimp exposed for 24 hours. Shrimp, oysters, menhaden, and many other commercial fishes spend all or part of their life in the inshore waters where they are particularly vulnerable to the effects of pesticides. We are concerned with the effects upon shrimp and menhaden as these species comprise the Nation's most valuable and largest fisheries. In 1962 the shrimp fishery was valued at over 72 million dollars to the fishermen and constituted 20 percent of the value of the total fisheries landings. In the same year over two billion



pounds of menhaden were caught.

The problem of biological transport, storage and accumulation of pesticide chemicals in living organisms is yet another facet of the problem. Over and over we have found high residue levels which could only result from accumulations through the food chain. A recent example comes from Green Bay, Wisconsin, where DDT residues occurred in traces in the sandy bottom of the lake. Fish being eaten by gulls contained 1.0 part per million, but the fat of gulls feeding on the fish has contained as high as 2,700 parts per million.

Bearing in mind that certain forms of fish and shellfish at certain stages in their lives are almost unbelievable sensitive to certain pesticides, we believe a system of monitoring is essential. Not until we have a systematic monitoring scheme, designed to tell us how much of what is where, will we be able to detect incipient problems early enough to prevent damage.

These rather diverse examples I have cited lead to two conclusions: First, there is much that we know; there is more that we don't. And to learn more is an urgent matter and one requiring greatly expanded research. In passing, I would point out that the Fish and Wildlife Service is presently limited to an appropriation of \$2,565,000 for pesticide research. The President's

budget carried \$3.5 million. Until the authorization ceiling is lifted, which could be done by passage of legislation pending in both Houses of Congress, we cannot proceed with this vital research as rapidly as we should.

Second: We must make better use of what we know. Your statement, Mr. Chairman, announcing this series of hearings said, "We are faced squarely with the problem of learning to control the movement of persistent toxic compounds beyond the restricted locations to which they are applied or discontinuing their use. That is the policy question confronting this nation today." Phrased another way, the question is, "Can we afford to use these persistent toxic chemicals if we cannot control the movement of their residues after use?" From my point of view, the answer is an unequivocal "No."

\*\*\*\*\*