

ROBERT H. WHITTAKER, called as a witness in behalf of the plaintiffs, being duly sworn, testified as follows:

THE WITNESS: Robert H. Whittaker (860)  
908 Chestnut Place, Newport Beach, California.

DIRECT EXAMINATION by MR. YANNACONE:

Q. Dr. Whittaker, will you please tell us your occupation?

A. College professor. \* \* \* University of California, Irvine.

Q. And you are a professor of what?

A. Ecology.

Q. How long have you been so employed?

A. I've been at Irvine only this last quarter. (861)

Q. And prior to that time?

A. I was at Brookhaven National Laboratory for two years and in the City University of New York for some years before that.

Q. And all the time in the field of ecology?

A. I am a professional ecologist.

Q. Have you published in the field?

A. Yes.

Q. Can you tell us approximately how many papers you have published?

A. Thirty papers, some of them monographic.

Q. And they dwelt with what subject?

A. My principal interests have been vegetation analysis and the function of natural communities. I am working on nutrient circulation in communities now.

MR. CORWIN: If the Court please, I am willing to concede the eminent qualifications of Dr. Whittaker in the field of ecology in general, and in the bird population in particular.

Q. All right. Dr. Whittaker, are you familiar of your own knowledge with the natural resources of Suffolk County. (862)

A. I did spend two years out here.

Q. And you have had occasion to look at the food web set up and introduced into evidence as Plaintiff's Exhibits 3 through 9?

A. Yes, I have looked at those food webs.

Q. And do you feel that they fairly and accurately are representative of the food web of the ecosystem described in the County of Suffolk?

A. They are in fact fair representations of food relationships.

Q. Now, Doctor, can you form an opinion with a reasonable degree of scientific certainty as to the effect of DDT upon the ecosystem described at present in the County of Suffolk?

A. I have looked at the evidence that has been presented through Dr. Wurster and Dr. Woodwell, and I find the evidence of damage to the wildlife of Long Island very convincing.

Q. Can you relate that damage to DDT in any way? (863)

A. I am not a specialist in DDT, but I find it difficult to believe that anything else could be responsible for the observed damage.

Q. Have you had occasion in the regular course of your professional activities to review the work that Doctors Wurster and Woodwell have done?

A. This is current work. I have not reviewed it in the sense of reviewing the publication, of course.

Q. You have worked with Dr. Woodwell in the past at the laboratory, have you not?

A. Yes, I have.

Q. And you have collaborated with him on other research papers, haven't you?

A. Yes.

Q. You published together with him, haven't you?

A. Yes.

Q. Can you form an opinion with a reasonable degree of scientific certainty as to the effect that the continued use of DDT will have upon the natural resources of the County of Suffolk? Can you form that opinion?

A. It seems to me that the picture is rather clear. You are losing wildlife and the continued use of DDT will mean more loss of wildlife. (864)

THE COURT: Attributed to DDT?

THE WITNESS: Yes. It is caused by DDT, Your Honor.

Q. . . . Can you form an opinion with a reasonable degree of scientific certainty whether or not the use of small quantities of DDT will cause any effect upon the wildlife of Suffolk County?

A. I would answer that one way, and that is by saying it seems to me that the evidence of damage presented implies that any additional DDT will produce some additional damage.

THE COURT: In the area where the DDT is applied or can it be in areas removed and far removed from the place of application?

THE WITNESS: One of the unfortunate things about DDT is that it is both in the salt marshes and the water bodies to which it spreads. There is also atmospheric transfer. It becomes very widespread and widely detrimental stuff.

THE COURT: And it will have this deleterious effect in distances far removed from the place of application? (865)

THE WITNESS: Indeed. It spreads through the oceans even.

THE COURT: Now, can I ask you this question: Has there been any finding that the DDT they find in France, for example, comes from an application in Suffolk County?

THE WITNESS: I don't know what one would say about that in terms of the circulation of the atmosphere. But I do believe you may have heard, Your Honor, the finding of DDT in the Antarctic, and you find that the stuff circulates on a global basis once it enters the oceans and the atmosphere.

THE COURT: By that, you mean you have the ordinary currents, and that if the DDT is caught in these currents, it will go with it?

THE WITNESS: Yes, sir. (866)

THE COURT: But that is conjectural, and you are not sure of that are you?

THE WITNESS: I think the evidence is there.

THE COURT: It might sound like a foolish question, but sometimes the judge has to ask a foolish question. I would like to know the answer to that.

THE WITNESS: If there is DDT in the Antarctic, it can only come by this process of world-wide spread. No one is using it for agriculture or mosquito control there in the Antarctic.

THE COURT: No. But it could come from Japanese currents, for example, and move up the coastline, is that right?

THE WITNESS: Yes. If you were asking where the DDT from Long Island goes, this I do not indicate I know.

THE COURT: That is what I want to know. In other words, we can't say that with any degree of certainty? (867)

THE WITNESS: These currents spread over the world in a way we know only partially, and we can't predict with certainty where all DDT will go.

Q. Have you any particular scientific evidence with respect to the circulation patterns?

A. Other people than I have studied this in detail.

Q. And they have done it mostly with radioactivity, have they not?

A. Yes, there has been a great deal of research on the spread of radioisotopes through the environment. I happen also to have been involved in research of this type in the Columbia River.

Q. And you are familiar with the research that Dr. Woodwell has done with respect to these cycles?

A. Yes.

MR. YANNACONE: Your Honor, I would like to make an offer of proof for the record. We can produce Dr. Woodwell to specifically document the various scientific studies, some of which he has participated in personally. (868)

THE COURT: Of what?

MR. YANNACONE: Indicating the method of circling environmental contaminants, such as DDT and radioactivity, throughout the vast areas of the world, and in many cases around the world a number of times. I submit that we can offer proof by Dr. Woodwell and Dr. Wurster that the circling effect applies also to DDT, and that this is one of the unique disadvantages of DDT--its long persistency.

THE COURT: Well, counsel, as I see it, one of the results would be contact of this substance with fish and animals.

MR. CORWIN: Your Honor, he is offering proof, and I am conceding that that will be the case. I would simply point out to the Court, however, that if that is the case, it is just as likely that some DDT that they used in India got to Suffolk County, and vice versa.

THE COURT: I agree with you. That is why I asked the question that nobody has answered yet. (869)

Q. Can you form an opinion, based on your own scientific knowledge and what you heard and read with respect to the evidence as adduced here, as to whether or not topical applications of DDT by the defendant Suffolk County Mosquito Control Commission in limited areas of Suffolk County will remain confined to the areas to which it is applied?

A. It is predictable that they will not.

Q. And can you describe in general the mechanism whereby the DDT is spread outside of the topical area applied?

A. There are several ways. When DDT is sprayed, it is carried by the air. When DDT is in the soil or in the marsh, it is carried in water, although its solubility is low. It is thus carried. Also, organisms carrying DDT migrate and spread.

Q. Can you then form an opinion with a reasonable degree of scientific certainty on the general effect of topical applications by the Suffolk County Mosquito Commission of DDT for mosquito control?

A. It does seem to me that with the levels of DDT existing here (870) already, you will produce damage both certainly in the marshes and possibly elsewhere.

Q. ... Can you form an opinion with a reasonable degree of scientific certainty whether the DDT applied allegedly in limited amounts by the Suffolk County Mosquito Control Commission will circulate to the food webs shown in exhibits 3 through 9?

A. It will. This is ecological knowledge.

Q. And will it tend to remain in the food web or will it tend to settle out of the food web?

A. It both circulates through the food web and spreads to other communities.

Q. And is it possible then that a small amount used by the Suffolk County Mosquito Commission will affect populations in communities removed at a distance physically from the community to which this is applied?

A. It certainly would add to the amount of DDT in the Great South Bay.

Q. Do you have an opinion as to whether or not the environment from the ecological point of view can tolerate much more DDT? (871)

A. It is my opinion from the evidence I have seen that you are already producing extinctions of local wilflife, and that more DDT implies more such damage.

Q. And can you form an opinion with a reasonable degree of scientific certainty as to how long it may take for all the effects of DDT to manifest themselves in the area?

MR. CORWIN: Now, Your Honor, I am going to object to that question. I don't think that anybody qualified can answer that question.

THE COURT: Please read the question.

\* \* \*

Q. Can you give us an opinion with a reasonable degree of scientific certainty whether the harmful effects of DDT appear necessarily at the time of application? Yes or no?

A. Yes, I can.

(872)

MR. CORWIN: Again, Your Honor, he asked the previous witness--

THE COURT: We have had that 100 times now, counsel.

MR. YANNACONE: All right, Your Honor. I have no further questions.

MR. CORWIN: I have no questions.

THE COURT: Thank you very much Doctor.

MR. YANNACONE: The plaintiff rests, Your Honor.

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THE COURT: Decision reserved.

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