

Dr. REVELLE. I wanted to say one of the interesting things to me here is that a good deal of such understanding as we now have has come from areas around atomic energy plants where radioactive materials getting into the biological environment have spread through that environment, and it has been possible to use these as tracers to see how the different kinds of plants and animals are related to each other, who eats what, how much from one level of life gets into the next level of life, and so forth.

And what Dr. Smith is in charge of is an attempt to expand these studies that have been made on quite a small scale to a large scale, to the prototype, the real world, in terms of a whole drainage basin. It is a natural step up from what you might call the bench stage, the breadboard model, to the prototype stage of understanding of ecology.

Mr. DADDARIO. Mr. Lukens?

Mr. LUKENS. Yes, Mr. Chairman. Thank you.

I understand that during my brief absence you did cover briefly some of the cost estimates involved, and I would like to ask you, Dr. Revelle, on page 7 of your statement you have a paragraph next to the bottom that does confuse me. In one sentence you say "The programs and projects so far described total between \$30 and \$60 million for a five-year program." The next sentence says "Within the next 12 months I think that the new work proposed will total between \$50 and \$75 million."

I wonder if you could clarify that for me. It does seem to be on the surface contradictory, new programs and programs "so far described." What is the difference here in the cost estimates; and particularly in the 12-month period, the \$75 million total? I realize this is just an estimate.

Dr. REVELLE. What this means is that the programs that have already been planned and in which projects have been developed come to this first figure of between \$30 and \$60 million, not per year but over a 5-year period.

We are just now right in the middle of developing many new programs and proposals. This document here went out to 50,000 biologists a couple of months ago, and we are getting every day several proposals passing through our office in the National Academy which have been stimulated or elicited by this document and by our various working conferences that we are now right in the middle of having.

Mr. DADDARIO. These figures are not those you will spend but rather they show the nature of the problem because of the reaction there is throughout the world to submit proposals?

Dr. REVELLE. That is right.

Mr. DADDARIO. You would then choose from these the best ones and then the figure will evolve through the choices of these proposals made to you. It would be how much over the 5-year period?

Dr. REVELLE. I would guess now—I can't really tell and I wouldn't like 5 years from now for you to come back at me and hold me to this. But my present guess is the cost over the 5-year period for the American part of the program would be about \$75 to \$100 million.

Mr. LUKENS. The next 5 years? That is about \$15 million a year.

Dr. REVELLE. Yes, sir.