

7. Members of the Research, Development, and Demonstration Subcommittee will be glad to answer questions that arise in the course of completing the questionnaire. Members are:

Dr. John L. Buckley—USDI	Dr. Louis B. C. Fong—NASA
Code 183-4091	Code 13-27695
Dr. Helmut K. Buechner—Smithsonian	Col. Alvin F. Meyer, Jr.—DOD
Code 144-5945	Code 11-69377
Mr. Jared J. Davis—AEC	Dr. Cecil H. Wadleigh—USDA
Code 119-4155	Code 1233-571
Dr. Edward S. Deevey—NSF	Dr. Douglas L. Worf—PHS
Code 183-7888	Code 13-22575

QUESTIONNAIRE ON POLLUTION RESEARCH, DEVELOPMENT, AND DEMONSTRATION
SUPPORTED OR CONDUCTED BY THE FEDERAL GOVERNMENT

Part I—Obligations (rather than Expenditures) Fiscal Year 1967 and Fiscal Year 1968. Include *all* funds obligated. (Indicate separately any funds *received* from other Federal agencies.) Show intramural and extramural separately.

1. Effects of pollutants or pollution.
 - (a) Directly on man.
 - (b) On crop plants and domestic animals.
 - (c) On non-domesticated plants and animals.
 - (d) On materials or structures.
 - (e) On environments:
 - (1) Air e.g., inadvertent weather modification.
 - (2) Freshwater e.g., eutrophication.
 - (3) Marine (including estuaries) e.g.
 - (4) Urban e.g.
 - (5) Rural e.g.
 - (6) Wild e.g.

[Effects included here are those exerted on a whole system rather than on its separate parts. Do *not* report research here that is reported under (a)-(d)]

2. Transport, distribution, and fate, including accumulation and degradation of pollutants.

- (a) Movement—including physical and biological movements (cycling).
 - (b) Degradation—physical or chemical changes.
3. Measurement and instrumentation.
4. Exposure to and sources of pollution.
5. Social, economic, and legal aspects of pollution.
6. Prevention and control of pollution.
 - (a) Research
 - (b) Development
 - (c) Demonstration

Part II—Research on pollution. Details of research conducted or supported by agency. Include all R D & D conducted regardless of source of funds, and all R D & D you support outside Federal Government. The following descriptions of categories are to be used:

Include support of all research directed toward understanding and controlling pollution, such as bio-geo-chemical cycling, study of unpolluted control areas, etc. Responses may be in tabular form.

1. *Effects*.—Each report should show what organism or group of organisms, or community or ecosystem is being studied; what pollutants or kinds of pollution, including noise and heat are being studied; what kinds of effects are being measured, such as mortality, behavior, physiological changes, etc. Pollutants may affect individuals, populations, communities of plants and animals, or ecosystems. The kinds of effects for *individuals* may range from death to subtle behavioral changes; for *populations*, in addition, they may include changes in natality and mortality rates and other population parameters; for *plant and animal communities*, they may also include changes in species in the community; and in *ecosystems* that may include altered rates of such processes as photosynthesis, bio-geo-chemical cycling, etc. For experimental work, the kinds of pollutants should be specifically listed to include each chemical compound with some indication of the range of concentrations, mode of exposure and combina-