

Item ID Number 02992 **Not Scanned**

Author Myres, M. T.

Corporate Author

Report/Article Title An Introduction to the Literature of the Effects of Biocides on Wildlife and Fish: A Select Bibliography

Journal/Book Title

Year 1964

Month/Day September

Color

Number of Images 31

Descriptor Notes Note on cover of typescript: "This is the last copy". "(Copies of this Bibliography may be obtained from: The Department of Biology, University of Alberta at Calgary, Calgary, Alberta, Canada.)"

AN INTRODUCTION TO THE LITERATURE OF
THE EFFECTS OF BIOCIDES ON WILDLIFE AND FISH:

A Select Bibliography

September, 1964

This is the last copy.
(Copies of this Bibliography may be obtained from: The
Department of Biology, University of Alberta at Calgary,
Calgary, Alberta, Canada.)

Introduction.

Toxic chemicals (commonly called pesticides, insecticides or, more recently and broadly, biocides) are now widely used in Canada in attempts to control insects which prevent the achievement of maximum production in agriculture or that are damaging to forest trees. This compilation is a Select Bibliography of publications reporting the effects that these chemicals are having upon populations of wild animals, particularly fish and birds.

It is intended chiefly to be of assistance to wildlife and fishery biologists, who may not have appreciated the extent of the studies already published, but it should also be of interest to many members of the Canadian general public. To a considerable extent the reader will be able to assess for himself, while glancing down the list of titles, the extent of the effects that toxic chemicals have already been shown to have upon fish and wildlife. It is hoped that the Bibliography will enable the person who wishes to study the problem further to obtain the original reports through his local departmental or public library, or through the nearest university library, and that he will then be able to read the detailed facts for himself.

Most of the research reports so far published have emanated from the United States and Great Britain. Only a few estimates have so far been made in Canada and only a small amount of research is currently being done here, though more is anticipated in the near future. It is very necessary that the existing lack of knowledge of the residues-load being carried by the environment (soil and water) and by the living creatures of this country be remedied immediately. The establishment of the National Biocide Residues Registry by the Canadian Wildlife Service in Ottawa will be a major contribution to improved communication between scientists in the fields of agriculture, forestry, health, fisheries and wildlife. It may also result in an improved public understanding of, and responsibility towards, the hazard now existing for human, as well as animal, life.

It was decided, with regret, to omit references to the literature from countries other than Canada, Great Britain and the United States for lack of space. An index, or list of contents, follows on the next page. In the case of the Canadian provinces the provisional titles of some research in progress or not yet published, or of papers of which the references have not been fully ascertained, are included, the titles being in square brackets. For the information quoted on these titles I am indebted to Dr. John L. George of the United States and Dr. F. Graham Cooch of the Canadian Wildlife Service.

Abbreviations:--

WR	<u>Wildlife Review</u> (U.S. Fish & Wildlife Service, Patuxent Wildlife Research Center, Laurel, Maryland).
JWM	<u>Journal of Wildlife Management</u> (The Wildlife Society).
TNAWC	<u>Transactions, North American Wildlife Conferences</u> (The Wildlife Society).
TAFS	<u>Transactions, American Fisheries Society.</u>
PACSEAGFC	<u>Proceedings, Annual Conferences South Eastern Association of Game & Fish Commissioners.</u>
USFWS	U.S. Fish & Wildlife Service.
USDA	U.S. Department of Agriculture.
USPHS	U.S. Public Health Service.
CSWFB	Canadian Society of Wildlife & Fishery Biologists.

[At the right hand end of the last line of many citations may be found a bracket-enclosed cross-reference to a brief abstract of the paper which may be located in Wildlife Review, Ibis, Auk, Pesticide Progress (see page 2), or etc. E.g.: (WR 87: 15)]

Index.

A. Major Surveys of the Toxicity of Pesticides..... 1

B. Reports of the Effects of Biocides upon Fish & Wildlife..... 3

 1. CANADA

 . General 3

 . British Columbia..... 4

 . Alberta..... 5

 . Saskatchewan..... 5

 . Manitoba..... 6

 . Ontario..... 6

 . Quebec..... 7

 . New Brunswick..... 7

 . Nova Scotia..... 9

 2. GREAT BRITAIN.....10

 3. UNITED STATES (and United Nations Agencies)

 . General Reviews.....12

 . General Effects.....15

 . Aquatic Invertebrates (including shellfish
 and the food of fishes).....18

 . Fish.....18

 . Birds (General; mainly Songbirds).....20

 . Waterfowl.....22

 . Upland Game Birds.....22

 . Birds of Prey.....23

 . Mammals, including Big Game, Livestock & Man....24

C. Insect Resistance, Biological Control etc.....27

Also available:

THE WIDESPREAD POLLUTION OF SOIL, WATER AND LIVING THINGS BY

TOXIC CHEMICALS USED IN INSECT CONTROL PROGRAMMES:

An Introduction to the Subject through Direct

Quotations from Published Reports.

cut of print.

[This, 57 page, compilation—quotations from the published literature, and covering acute poisoning, and chronic effects; pollution of the soil and natural waters; controls, legislation and research; resistance integrated control and biological control—is also available from the same address: The Department of Biology, University of Alberta at Calgary, Calgary, Alberta].

A. MAJOR SURVEYS OF THE TOXICITY OF PESTICIDES

(All Countries).

1956. Effects of Modern Insecticides on Mammals, Birds and Insects. Proceedings and Papers, 5th Technical Meeting, International Union for the Protection of Nature, Copenhagen, 1954: pp. 86-170 (Present Address: International Union for the Conservation of Nature, Morges, Switzerland). (WR 87:15)
1956. Rudd, R.L. & Gonally, R.E. Pesticides: their Use and Toxicity in relation to Wildlife. California Department of Fish & Game. Game Bulletin No. 7 (209 pp.) (Obtainable from Department of Fish and Game, 722 Capitol Avenue, Sacramento 14, California). Send
7
- 1957----- ADVANCES IN PEST CONTROL RESEARCH. Vol. 1-----
1957. Martin, H. Guide to the Chemicals used in Crop Protection. Canada. Department of Agriculture, Science Service, Ottawa. (3rd Edition).
1959. The Fire Ant Eradication Program and how it affects Wildlife. A Symposium. Proceedings of the 12th Annual Conference of the South Eastern Association of Game and Fish Commissioners. (34 pp.) (Published by the South Eastern Association of Game & Fish Commissioners, Box 360, Columbia, South Carolina) (WR 95:14-18).
1959. Muller, P. & Simons, S.W. (Editors). DDT: The Insecticide Dichlorodiphenyl-trichlorethane and its significance. Vol. 2: Human and Veterinary Medicine. (570 pp.) Basel & Stuttgart: Birkhauser Verlag. (WR 105:4)
1959. Steiner, P. & Gruch, W. Toxicology of Insecticides. I. Diene Group. Mitt. Biol. Bundesanst. Land-u. Fortwirtsch. Berlin-Dahlem. 95:1-118. (WR 105:4)
- 1960-1964. British Trust for Ornithology--Royal Society for the Protection of Birds, Joint Committee on Toxic Chemicals, First, Second, Third and Fourth Reports. (Obtainable from the British Trust for Ornithology, Beech Grove, Tring, Hertfordshire, England or The Royal Society for the Protection of Birds, The Lodge, Sandy, Bedfordshire, England). (For details see: Cramp et.al. under Great Britain, from 1960 to 1964).
1960. DeWitt, J.B. & George, J.L. (Editors). Pesticide-Wildlife Review, 1959. U.S. Fish & Wildlife Service, Circular 84 (Revised). (36 pp.) [Sections include: Direct Effects of Pesticides on Field Populations; Indirect Effects of Pesticides on Wildlife; Recent Pesticide Legislation; Recommendations for Safeguarding Wildlife Values during Pest Control]. (WR 98:10)
1960. George, J.L. Some Primary and Secondary Effects of Herbicides on Wildlife. In: Herbicides and their Use in Forestry. Pennsylvania State University, Forestry Symposium: 40-73. (WR 107:9) I
1960. Hayes, W.J. Pesticides in Relation to Public Health. Annual Review of Entomology 5: 379-404.
1960. U.S. Department of Agriculture, Agricultural Research Service. The Nature and Fate of Chemicals applied to Soils, Plants and Animals. USDA, ARS 20-9. (221 pp.)

1961. Kuenen, D.J. (Editor). The Ecological Effects of Biological and Chemical Control of Undesirable Plants and Animals. Symposium, 8th Technical Meeting, International Union for the Conservation of Nature and Natural Resources (IUCN), Warsaw, 1960. Leiden (Holland): E.J.Brill.
- 1962) — Carson, Rachel. Silent Spring. Boston: Houghton Mifflin Co. (1962);
1963) — London: Hamish Hamilton (1963).
1962. Effects of Pesticides on Fish and Wildlife: a Review of Investigations during 1960. U.S.Fish & Wildlife Service, Circular 143. (52 pp).
[Sections include: Effects on Wildlife; Effects on Sport Fisheries; Effects on Commercial Fisheries; Recommendations for Minimizing Dangers of Pesticides to Fish and Wildlife].
(WR 106:7)
1962. — RESIDUE REVIEWS. New York: Academic Press (4 volumes so far published).
1963. Hayes, W.J. Clinical Handbook on Economic Poisons. U.S.Public Health Service Publication No. 476 (144 pp.). Washington: Government Printing Office. H. C. C.
1963. Pesticide-Wildlife Studies: A Review of Fish and Wildlife Service Investigations during 1961 and 1962. U.S.Fish & Wildlife Service, Circular 167. (109 pp.).
[Sections include: Commercial Fisheries Investigations; Sport Fishery Investigations; Wildlife Studies, Denver Wildlife Research Center; Wildlife Studies, Patuxent Wildlife Research Center; Pesticide-Wildlife Studies by State, Provincial, or University Personnel, and by Cooperative Wildlife Research Units; Recommendations for Minimizing Dangers of Pest Control and Pesticides to Fish and Wildlife].
(WR 111;5)
(The Recommendations listed are reprinted in PESTICIDE PROGRESS (Ottawa) 1(5):161-165).
1964. Langer, E. Pesticides: Minute Quantities linked with Massive Fish Kills; Federal Policy still Uncertain. Science 144 (3614) : 35-37 (3rd April 1964).
1964. Rudd, R.L. Pesticides and the Living Landscape. University of Wisconsin Press. (320 pp.)
1964. United Nations. Food & Agriculture Organization/ World Health Organization (FAO/WHO). [A Report on the Toxicity of Pesticide Residues in Food] (170 pp.) ✓
1964. U.S.Congress. 88th Congress, 1st Session. Senate Committee on Government Operations. Hearings before the Subcommittee on Reorganization and International Organizations, Interagency Coordination in Environmental Hazards (Pesticides). Part 1: May 16 to June 25, 1963 (390 pp.) [8th March 1964]. (Obtainable from Superintendent of Documents, U.S.Government Printing Office, Washington, D.C., \$ 1.25 US.) [See Pesticide Progress (Ottawa) 2(4): 106-107). ✓ S. C. C.

B. REPORTS OF THE EFFECTS OF BIOCIDES UPON FISH & WILDLIFE.

1. CANADA.General:

[See also Papers by B.P.Beirne, A.W.A.Brown and A.D.Pickett under individual Provinces and under the Section on Insect Resistance, Biological Control etc. (Section C)]

1948. Pickett, A.D. The Philosophy of Orchard Insect Control. -Entomological Society of Ontario, Annual Report 79: 1-5, 37-41.
- 1949 & 1950. Pickett, A.D. A Critique on Insect Chemical Control Methods. Canadian Entomologist 81: 1-10, 67-76.
1951. Brown, A.W.A. Insect Control by Chemicals. New York: Wiley.
1953. Pickett, A.D. Controlling Orchard Insects. Agric. Inst. Rev. March-April 1953.
1958. Laird, M. A Secondary Effect of DDT upon the Aquatic Microflora and Microfauna. Canadian Journal of Microbiology 4(5): 445-452.
1959. Alderdice, D.F. & Worthington, M.E. Toxicity of a DDT Forest Spray to young Salmon. Canadian Fish Culturist 24: 41-48.
1959. Keenleyside, M.H.A. Insecticides and Wildlife. Canadian Audubon 21(1): 1-7.
1961. Hurtig, H. Professional Responsibility in Association with Pesticide Use. Federal-Provincial Wildlife Conference 25: 39-47. (WR 110:7)
1963. Brown, A.W.A. Effects of Insecticides on Wildlife. N.Y. Conservationist 17(3): 8-11, 40-41. (WR 111:5)
1963. Canada. Food & Drug Directorate. Trade Letter 231 (Ottawa).
1963. "Interdepartmental Committee on Insecticides and Pesticides".
Reference Paper on Pesticides. House of Commons, 1st Session--26th Parliament, Special Committee on Food & Drugs, Minutes of Proceedings and Evidence, No. 3.
1963. National Committee on Pesticide Use in Agriculture. Pesticide Research Report, 1962.
1963. PESTICIDE PROGRESS. (Pesticide Technical Information Office, Research Branch, Canada, Department of Agriculture; Ottawa). (Formerly INSECTICIDE NEWSLETTER). 1963--- Vol. 1---
1963. Solman, V.E.F. Biocides and Wildlife, Paper at 27th Federal-Provincial Wildlife Conference, 1963 (Canadian Wildlife Service, Mimeographed, 10 pages). [Reprinted as: Chemical Poisons--Alarming Threat to our Wildlife. British Columbia Digest, February 1964 : 16, 47-51].
- 1963-64. Canada. House of Commons. 1st Session--26th Parliament. Special Committee on Food & Drugs (Chairman Mr. Harry Harley), Minutes of Proceedings and Evidence, No. 1-16.
[See especially No. 8--evidence by Mr. W.W.Mair of the Canadian Wildlife Service, and No. 16-- The Second Report to the House, and Statements of Rachel Carson]

1964. Cooch, F.G. Current Developments in the Biocide-Wildlife Field. Paper at 28th Federal-Provincial Wildlife Conference, 1964, Charlottetown, P.E.I. (Canadian Wildlife Service, Mineographed, 13 pages).
1964. National Committee on Pesticide Use in Agriculture. Pesticide Research Report, 1963. Ottawa: Queen's Printer (Cat. No. A41-14/1963) (Especially pp. 151, 247 & 255).
1964. Solman, V.E.F. Poisons and Wildlife. Paper at Ontario Federation of Anglers and Hunters Annual Convention, Hamilton, Ontario, 1964. (Canadian Wildlife Service, Mineographed, 17 pages).
1964. Wilkinson, A.T.S., Finlayson, D.G. & Morley, H.V. Toxic Residues in Soil 9 Years after treatment with aldrin and heptachlor. Science 143 (3607): 681-682 (14 February 1964).
[See Pesticide Research Report (Ottawa) 1963: 247]

British Columbia:

1949. Curtis, L.C. The effect of DDT emulsions on Trout fry. Proceedings of the Entomological Society of British Columbia 45: 31-32.
1950. Bowman, R.I. A Study of Bird and Mammal Populations in Orchards of Okanagan Valley, British Columbia, with special reference to the Effects of Orchard Sprays upon them. (Canadian Wildlife Service, Ottawa, MS. (85 pp.)).
1951. Reid, D.B. An Investigation into the Effects of Orchard Sprays on Wildlife in the Okanagan Valley of B.C. (Canadian Wildlife Service, MS. (on file). (52 pp.)).
1954. Reid, D.B. Investigations of the Effect of Orchard Sprays upon Wildlife in the Okanagan Valley of B.C. (Canadian Wildlife Service, MS (on file). (75 pp.)).
1959. Crouter, R.A. & Vernon, E.H. Effects of Black-headed Budworm Control on Salmon and Trout in British Columbia. Canadian Fish Culturist 24: 23-40.
- [1962]. Stringer, G.E. [The Use of toxaphene as a Fish Eradicator: a Study of the Effects of toxaphene at different concentrations to Fish and other Aquatic Life, in Relation to its Use as a Fish Eradicator]
[See CSWFB Directory of Fish & Wildlife Research in Canada—Project 10-2-7]
1963. Marshall, J. Background for Integrated Spraying in the Orchards of British Columbia. Proceedings of the Entomological Society of British Columbia 60: 26-29.
1963. Reid, D.B. Toxicity Studies of Sprays used in the Bowman Report. (Canadian Wildlife Service, Ottawa. MS.)
1964. Anon. Farmers will be able to Test for Residues & Allocate \$ 25,000 to Test Food for Chemical Residues. Country Life (British Columbia), June 1964.
- [?]. Lorz, H.W. [Spraying of the Cameron River with DDT for the pine butterfly and its Effect on the Indigenous Fish Populations] (British Columbia, Department of Recreation & Conservation) (Details not known).

[?]. Lorz, H.W. [Effects on Rainbow Trout of field application of Phytoactin L-318] (British Columbia, Department of Recreation and Conservation) (Details not known).

Alberta:

[1962]. Brown, J.H. et. al. [Screening for Pesticides and Antibiotics in Milk and Milk Production as a Public Health Measure] [See CSWFB Directory of Fish & Wildlife Research in Canada--Project 9-5-8].

[1962]. Paterson, R.J. [Use of Toxicants for the Eradication of Fish Populations in Small Lakes and Reservoirs in Alberta] [CSWFB Directory of Fish & Wildlife Research in Canada--Project 9-2-19].

1964. Anon. Chemical Control of Field Crop Insects-1964. Alberta Department of Agriculture Publication 139 (Edmonton).

1964. Anon. Checking Fallout in Foods--Pesticide Residues. Within our Borders --an Alberta Government Publication, February 1964.

1964. Charnetski, W.A. [Effects of Sub-lethal Concentrations of dieldrin on Lake Biota] (University of Alberta, Edmonton; Thesis in preparation).

1964. Hocking, B. Pesticides--Use and Abuse. University of Alberta, Department of Entomology, Leaflet No. 768. (Edmonton).

1964. Kadis, V.W., Jonasson, O.J. & Brown, J.H. Screening for Pesticide Residues in Dairy Products and Animal Fat. p. 255 in : Pesticide Research Report, 1963. Ottawa: Queen's Printer.

1964. Kilsdonk, R. Edmonton Laboratory equipped to detect minute quantities of Chemical Residues. Western Producer, 21 May 1964.

1964. Myres, M.T. An Introduction to the Literature of the Effects of Biocides on Wildlife and Fish: A Select Bibliography. (University of Alberta at Calgary, Department of Biology . Mimeographed, 21 pp.).

1964. Myres, M.T. (Compiler). The Widespread Pollution of Soil, Water and Living Things by Toxic Chemicals used in Insect Control Programmes: An Introduction to the Subject through Direct Quotations from Published Reports. (University of Alberta at Calgary, Department of Biology. Mimeographed, 54 pp.)

Saskatchewan:

1960. Folker, R.V. A Study of the Effects of dieldrin Spraying on Wildlife. Wildlife Branch, Department of Natural Resources, Regina. (Mimeographed, 10 pp.).

[1960?]. Chambers, K.J. 1960 Follow-up on dieldrin investigations in Saskatchewan. Wildlife Branch, Department of Natural Resources, Regina. (Mimeographed, 4 pp.).

[?]. Harper, T.A. Wildlife and Agricultural Chemical Controls. Wildlife Branch, Department of Natural Resources, Regina. (Mimeographed, 3 pp.).

1962. Bard, F.G. Trouble among Colonial Birds at Isle of Bays. Blue Jay 20: 112-114.

[1962]. Doyle, J.P. [Carp Control: Materials and Methods for Selective Poisoning of Carp Fry] [CSWFB Directory of Fish & Wildlife Research in Canada--Project 8-2-10].

1963. Nero, R.W. Detergents-- a New Hazard for Water Birds. Blue Jay 21: 91-93.
1964. Budd, A.C. History of Weeds in Western Canada. Blue Jay 22: 90-95.
1964. Jowsey, J.R. Hope for Water Birds subjected to Detergents ? Blue Jay 22:3
1964. Hubbard, Mrs E.K. Damage done by Weed Sprays. Blue Jay 22: 114-115.

Manitoba:

1954. Mitchener, A.V. A History of Grasshopper Outbreaks and their Control in Manitoba, 1799-1953. 84th Annual Report, Entomological Society of Ontario. 1953: 27-35.
1959. Bossenmaier, E.F. The Effects of Insecticides upon Wildlife. Proceedings, Entomological Society of Manitoba, 15: 33-40. (WR 102:9)
1964. Anon. Insecticide Handbook for Manitoba Pesticide Dealers, 1964. Department of Agriculture and Conservation, Winnipeg.

Ontario:

[Other Papers by A.W.A. Brown on Insect Resistance and by B.P. Beirne on Integrated and Biological Control may be found in Section C: Insect Resistance, Biological Control etc.]

1947. Kendeigh, S.C. Bird Population Studies in the Coniferous Forest Biome during a Spruce Budworm Outbreak. Ontario Department of Lands and Forests, Division of Research, Biological Bulletin No. 1
1949. Johnston, R.N. et. al. Forest Spraying and some Effects of DDT. Ontario Department of Lands & Forests, Division of Research, Biological Bulletin No. 2 (174 pp.)
1950. Davies, D.M. A Study of the Black-fly Population of a Stream in Algonquin Park, Ontario. Transactions of the Royal Canadian Institute 59: 121-159.
1960. Johnson, M.G. Considerations on Aquatic Plants and their Control in Ponds and Lakes. March, 1960, Field Report. Metropolitan Toronto and Region Conservation Authority, Woodbridge, Ontario. (8 pp.).
1960. Johnson, M.G. Progress Report on Field Experiments on Control of some Aquatic Weeds. Tech. April, 1960, Field Report. Metropolitan Toronto and Region Conservation Authority, Woodbridge, Ontario. (13 pp.).
1960. Johnson, M.G. Field Experiments on Use of Algicides in Ponds. May, 1960, Field Report. Metropolitan Toronto and Region Conservation Authority, Woodbridge, Ontario. (8 pp.).
1961. Brown, A.W.A. The Effect of the Chemical Control of Insects on Wildlife Conservation: Evaluation of the Present in light of Past Experience. Proceedings, Entomological Society of Ontario 91: 40-46. (WR 107:9)
1961. De Vos, A. Insecticide Applications and their Effect on Wildlife. Proceedings, Entomological Society of Ontario 91: 35-36. (WR 107:9)

- [1962]. Battle, H.I. [Comparative Cytological and Histological Effects of the Lampricide TFM on the larval Sea Lamprey and Bony Fish]. [CSWFB Directory of Fish & Wildlife Research in Canada-- Project 6-6-1].
- [?]. Kennedy, W.A. [The Lamprey Control Experiment] [Fisheries Research Board of Canada; Reference not ascertained].
1961. Miller, W.R. Experimental Application of Selected Herbicides at Walpole Island Indian Reserve. (Canadian Wildlife Service; MS. on file).
1963. Schenk, C.F. Aquatic Plant and Algae Control. Ontario Water Resources Commission, Biology Branch. (20 pp.)
1963. Swabey, Y.H. & Schenk, C.F. Algicides and Aquatic Herbicides. Taste and Odour in Water. Laboratory Studies on Fish Toxicity. Field Toxicity Studies. Ontario Water Resources Commission, Biology Branch. (22 pp.).

Quebec:

1958. Gagnon, A. La Toxicité du DDT pour le Saumon de l'Atlantique (Salmo salar Linné) et les alevins de Truite (Salvelinus fontinalis Mitchell). Canadian Journal of Zoology 36: 479-487. (WR 93:16)
1959. Emond, G. La Toxicité du 2,4-D et ses composés pour les animaux. Quebec Soc. Prot. Plants Rep. 41: 96-100.
- [1962]. Courtemanche, A. [Reconditionnement de lacs dans le parc du Mont Tremblant avec le toxaphène, l'endrine etc.] [CSWFB Directory of Fish & Wildlife Research in Canada-- Project 5-5-3].
- [1962]. Vincent, B. [Effect de deux herbicides E 470-20B et RH weed RHap-20, sur les plantes aquatiques & Inventaires biologiques de lacs avant et après les empoisonnements pour connaître les organismes affectés par les différents produits toxiques employés] [CSWFB Directory of Fish & Wildlife Research in Canada--Projects 5-4-1 and 5-4-2].

New Brunswick:

1955. Kerswill, C.J. & Elson, P.F. Preliminary Observations on Effects of 1954 DDT Spraying on Miramichi Salmon Stocks. Fisheries Research Board of Canada, Atlantic Coast Stations. Progress Report 62: 17-23.
1956. Anon. Effects of DDT Spraying on young Salmon and their Food. Atlantic Salmon Journal No. 4: 33-34. (WR 91:14-15).
1957. Ide, F.P. Effects of Forest Spraying with DDT on Aquatic Insects of Salmon Streams. TAFS 86: 208-219. (WR 93:16)
1957. Kerswill, C.J. Investigation and Management of Atlantic Salmon in 1956. Part 1. The Research Programme. (Federal-Provincial Coordinating Committee on Atlantic Salmon). Trade News 9(12): 5-15. (Department of Fisheries of Canada).
1958. Keenleyside, M.H.A. Comparative Effects of the Insecticides DDT and Malathion on young Atlantic Salmon. (Reference not ascertained)

1958. Kerswill, C.J. Effects of DDT Spraying in New Brunswick on-Future Runs of Adult Salmon. Atlantic Advocate 48: 65-68.
1958. Kerswill, C.J., Elson, P.F. & Keenleyside, M.H.A. Investigation and Management of Atlantic Salmon in 1957. Part 1. The Research Programme. (Federal-Provincial Coordinating Committee on Atlantic Salmon). Trade News 10(12): 4-18. (Department of Fisheries of Canada).
1959. Keenleyside, M.H.A. Effects of Spruce Budworm Control on Salmon and other Fishes in New Brunswick. Canadian Fish Culturist 24:17-22.
1959. Kerswill, C.J. Investigations and Management of Atlantic Salmon in 1958. Part 1. The Research Programme (Federal-Provincial Coordinating Committee on Atlantic Salmon). Trade News 11(11): 3-10. (Department of Fisheries of Canada).
1959. Webb, F.E. Aerial Chemical Control of Forest Insects with reference to the Canadian Situation. Canadian Fish Culturist 24:1-16. (WR 96:14 & 97:9)
1960. Kerswill, C.J. Investigations and Management of Atlantic Salmon in 1959-60, Part 1. The Research Programme. (Federal-Provincial Coordinating Committee on Atlantic Salmon). Trade News 12(12): 3-11. (Department of Fisheries of Canada).
1960. Kerswill, C.J., Elson, P.F. & Keenleyside, M.H.A. Effects on Young Salmon of Forest Spraying with DDT. (Reference not ascertained).
1960. Wright, B.S. Woodcock Reproduction in DDT-Sprayed Areas of New Brunswick. JWM 24: 419-420. (WR 100:9).
1961. Kerswill, C.J. Investigation and Management of Atlantic Salmon. Part 1. The Research Programme. (Reference not ascertained).
- [1962]. Carter, B.C. [Ruffed Grouse: Effect of DDT Spraying on Reproduction]. [CSWFB Directory of Fish & Wildlife Research in Canada--Project 4-1-7].
- [1962]. Wright, B.S. [Woodcock: Effect of DDT Spray on Reproduction & Woodcock: Pressure of Pesticide Poisons brought into the Area from other Sections of Annual Range]. [-See CSWFB Directory of Fish & Wildlife Research in Canada--Projects 4-2-4 and 4-2-6].
- [1963]. Johansen, P.H. [Effects of Sublethal doses of DDT on Growth and Locomotor Activity in young Atlantic Salmon]. (University of New Brunswick; Thesis in preparation--details not known).
- [1963]. Ogilvie, D.M. [DDT-induced Changes in the Response of Atlantic Salmon Parr to Temperature]. (University of New Brunswick; Details not known).
- [1963]. Peterson, R.H. [Effect of DDT on Oxygen consumption of Brain and Livers of Atlantic Salmon]. (University of New Brunswick; Thesis in preparation--details not known).
1963. Premdas, F.H. & Anderson, J.M. The Uptake and Detoxification of ¹⁴C-labelled DDT in Atlantic Salmon, Salmo salar. Journal of the Fisheries Research Board of Canada 20: 827-837.
- [1963]. Smith, M.W. [Effects on Salmonid Fishes of Aerial Insecticide Spraying]. (Fisheries Research Board of Canada) (Reference not ascertained).

1964. Elson, P.F. Insecticide Spraying of New Brunswick Forests and associated abundance of young Atlantic Salmon. Canadian Committee on Freshwater Fisheries Research, 17th Meeting, Ottawa, January 1964. [Same title was given to the American Institute of Biological Sciences, Session on Pesticide Pollution in Freshwater Ecosystems, Boulder, Colorado, August 1964] .

Nova Scotia:

[Other papers by A.D.Pickett on Biological Control may be found in the sections Canada:General and Insect Resistance, Biological Control etc.]

1949. Kelsall, J.P. A Study of Bird Populations in the Apple Orchards of the Annapolis Valley, Nova Scotia, with particular reference to the Effects of Orchard Sprays upon them. Wildlife Management Bulletin, Series 2, No. 1. (69 pp.). (Canadian Wildlife Service).
1953. Pickett, A.D. & Patterson, N.A. The Influence of Spray Programs on the Fauna of Apple Orchards in Nova Scotia. IV. A Review. Canadian Entomologist 85(12): 472-478.
1956. Patterson, N.A. Changes caused by Spray Chemicals in the Fauna of Apple Orchards in Nova Scotia. Proceedings and Papers, 5th Technical Meeting, International Union for the Protection of Nature, Copenhagen, 1954.
1961. MacLellan, C.R. Woodpecker Control of the Codling Moth in Nova Scotia Orchards. Atlantic Naturalist 16(1): 17-25.
1961. Pickett, A.D. The Ecological Effects of Chemical Control Practices on Arthropod Populations in Apple Orchards in Nova Scotia, Canada. Symposium: The Ecological Effects of Biological and Chemical Control of Undesirable Plants and Animals (Edited by D.J. Kuenen): 19-24. International Union for the Conservation of Nature, Warsaw, 1960. (Contribution No. 1038, Research Station, Canada Department of Agriculture, Kentville, Nova Scotia).
1962. Lord, F.T. The Influence of Spray Programs on the Fauna of Apple Orchards in Nova Scotia. XI. Effects of Low Dosages of DDT on Predator Populations. Canadian Entomologist 94(2): 204-216. (Contribution No. 1066, Research Station, Canada Department of Agriculture, Kentville, Nova Scotia). [See also earlier papers in the same series, also in the Canadian Entomologist].

2. GREAT BRITAIN.

1956. Middleton, A.D. The Effects of Certain Insecticides and Herbicides on Game-birds and other Wildlife in Farm Crops. Proceedings and Papers, 5th Technical Meeting, International Union for the Protection of Nature, Copenhagen, 1954.
1957. Carnaghan, R.B.A. & Blaxland, J.D. The Toxic Effect of certain Seed-dressings on Wild and Game Birds. Veterinary Record 69:324-325. (WR 100:7)
1958. Elton, C.S. The Ecology of Invasions by Animals and Plants. London: Methuen. (181 pp.)
1960. Duncan, C.J., Wright, E.N. & Ridpath, M.G. A Review of the Search for Bird-repellant Substances in Great Britain. Annales des Epiphyties 1960: 205-212.
1961. Cramp, S. & Conder, P.J. The Deaths of Birds and Mammals connected with Toxic Chemicals in the first half of 1960. British Trust for Ornithology--Royal Society for the Protection of Birds, Committee on Toxic Chemicals, Report No. 1. (20 pp.) (WR 103:9).
1961. Sanders, H.G. (Chairman). Toxic Chemicals in Agriculture and Food Storage. Report of the Research Study Group, Ministry of Agriculture, Fisheries and Food. (65pp.) London: H.M.S.O.
1962. Ash, J.S. Residues of Seed Dressings in Pheasant's Eggs. British Birds 55: 478-480.
1962. Ash, J.S. Mortality to Game and other Wildlife caused by Toxic Seed-dressings in the Spring of 1961. Game Research Association, Annual Report, 1961: 10-28. [53, Northbrook Street, Newbury, Berkshire, England]
1962. Campbell, W.D. Purposes of Chemicals used in Agriculture: a Threat to Wildlife. Bird Study 9: 245-251.
1962. Cramp, S., Conder, P.J. & Ash, J.S. Deaths of Birds and Mammals from Toxic Chemicals, January-June 1961. Second Report of the Joint Committee on Toxic Chemicals of the British Trust for Ornithology and the Royal Society for the Protection of Birds in collaboration with the Game Research Association. (24 pp.)
1962. Moore, N.W. Toxic Chemicals and Birds: the Ecological Background to Conservation Problems. British Birds 55: 428-435. (WR 108:6).
1962. Moore, N.W. & Ratcliffe, D.A. Chlorinated Hydrocarbon Residues in the Egg of a Peregrine Falcon (Falco peregrinus) from Perthshire. Bird Study 9: 242-244.
1962. Wheatley, G.A. et. al. Residues of Chlorinated Hydrocarbon Insecticides in some Farm Soils in England. Plant Pathology 11(2):81-90.
1963. Anon. The Effect of Toxic Chemicals on Birds & Birds of Prey. In: International Council for Bird Preservation, British Section, Annual Report for 1962: 4-8.
1963. Ash, J.S. Mortality to Game and other Wildlife caused by Agricultural Chemicals in 1962. Game Research Association, 2nd Annual Report: 12-22.
1963. BIRD NOTES (Royal Society for the Protection of Birds, London). Summer Issue of 1963 is devoted to reports of the papers and discussions at the Birds of Prey Conference, Cambridge, March 1963. Bird Notes 30(7): 205-219.
1964. Taylor, A. & Brady, J. Chlorinated Pesticide Residues in Wild Bird Eggs. Bird Study 11: 192-197.
1962. Taylor, A. The Rapid Determination of Seed-Dressing Insecticide Residues in Animal Relicta. Analyst 87: 324--

1963. BIRD STUDY. Editorial, in Bird Study 10(2):55.
1963. Cramp, S. Toxic Chemicals and Birds of Prey. British Birds 56:124-139.
(WR 110:6)
1963. Cramp, S., Conder, P.J. & Ash, J.S. Deaths of Birds and Mammals from Toxic Chemicals, September 1961-August 1962. Third Report of the Joint Committee on Toxic Chemicals of the British Trust for Ornithology and the Royal Society for the Protection of Birds, in collaboration with the Game Research Association. (24 pp.).
1963. Ferguson-Lees, I.J. Changes in the Status of Birds of Prey in Europe. British Birds 56: 140-148.
1963. Hunter, C.G. et. al. Chlorinated Insecticide Content of Human Body Fat in Southern England. British Medical Journal 1:221-224, (1963).
1963. Nicholson, E.M. Ornithology in Action. British Birds 56: 121-124.
1963. Ratcliffe, D.A. The Status of the Peregrine in Great Britain. Bird Study 10: 56-90.
1963. Ratcliffe, D.A. Peregrines Rearing Young Kestrels. British Birds 56:457-460.
1963. Turtle, E.E. et. al. The Effects on Birds of certain Chlorinated Insecticides used as Seed Dressings. J.Sci. Food Agr. 14(8): 567-577.
(WR 112:7).
1964. Anon. Pesticides and Wild Life & Pesticides and Golden Eagles. Oryx 7(4): 159-160. (Fauna Preservation Society, c/o Zoological Society of London, Regent's Park, London, N.W.1.).
1964. Anon. Research on Toxic Chemicals. Institute of Biology Journal 11(2):56-57 (May,1964).
1964. Cordero, R. Important Victory in Toxics Battle. British Birds 57: 216.
1964. Cordero, R. Declining Birds of Prey in Western Europe. British Birds 57:257.
[Reports on the International Working Conference on Birds of Prey and Owls, held at Caen, France, April,1964].
1964. Cramp, S. Toxic Chemicals--the Present Position. B.T.O.News No. 2: 1-2, March,1964. (British Trust for Ornithology, Tring, Herts).
1964. Cramp, S. Toxic Chemicals--a Step Forward. B.T.O.News 3:1-2, May,1964.
1964. Cramp, S., Conder, P.J. & Ash, J.S. The Risks to Bird Life from Chlorinated Hydrocarbon Pesticides, September 1962-July 1963. Fourth Report of the Joint Committee on Toxic Chemicals of the British Trust for Ornithology and the Royal Society for the Protection of Birds, in collaboration with the Game Research Association. (Ibis 106:288).
1964. Advisory Committee on Poisonous Substances used in Agriculture and Food Storage. Review of the Persistent Organochlorine Pesticides. (24 March,1964). London: H.M.S.O. [partially abstracted in Pesticide Progress (Ottawa) 2(3): 85-89, May,1964].
1964. Frazer, A.C. (Chairman). Report of the Research Committee on Toxic Chemicals. London: Agricultural Research Council (28 February, 1964).
1964. Hillaby, J. Pesticides and Health. New Scientist No. 381: 592, 5th March,1964.
1964. Lockie, J.D. & Ratcliffe, D.A. Insecticides and Scottish Golden Eagles. British Birds 57: 89-102.
1964. Norris, C.A. The Unholy Trio. B.T.O.News 3:1 (May,1964).
- 1964(?). Ash, J. & Taylor, A. Trials to Measure the Effects of a Normal Mercury/gamma BHC Seed-Dressing on Breeding Pheasants: Interim Report. Annual Report, Game Research Association,1963.

3. UNITED STATES
(and United Nations
Agencies).

General Reviews:

1945. Roart, R.C. List of Publications on DDT. USDA, Bureau of Entomology and Plant Quarantine.
1956. De Long, E.R. Chemistry and Uses of Pesticides. 2nd Edition. New York: Reinhold. (334 pp.). (WR 97:7)
- 1956-1962. Shepard, H.H. et. al. The Pesticide Situation, [for the years 1955-56 to 1961-62]. USDA, Commodity Stabilization Service [later Agricultural Stabilization and Conservation Service].
1957. Frawley, J.P. et. al. Marked Potentiation in Mammalian Toxicity from Simultaneous Administration of Two Anticholinesterase Compounds. J. Pharmacol. & Exper. Therapeut. 121:96-106.
1957. George, J.L. The Pesticide Problem. A Brief Review of Present Knowledge and Suggestions for Action. Conservation Foundation (30 East 40th Street, New York 16) (67 pp.) (WR 92:17).
1957. Stickel, L.F. & Springer, P.F. Pesticides and Wildlife. USFWS, Wildlife Leaflet 392. (12 pp.)
1957. World Health Organization. Select Bibliography on the Toxicity of Pesticides to Man and Animals 1953-1955. WHO, Bulletin 16(6): 1219-1241.
1958. W.H.O. Bibliography on Pesticides Toxicity and Accidental Poisoning. World Health Organization. WHO/Insecticides/81. (10 pp.) (WR 95:15).
1958. Myers, C.S. Endrin and related Pesticides: a Review. Pennsylvania Department of Health Research, Report No. 45 (Mimeographed).
1959. Leedy, D.L. Pesticide-Wildlife Problems and Research Needs. TNAWC 24: 150-165. (WR 98:11).
1959. Negherbon, W.O. Handbook of Toxicology. Vol. 3 : Insecticides. A Compendium. Philadelphia: Saunders. (854 pp.) [This volume is almost completely deficient in references to the effects of insecticides on wildlife]. (WR 97:8).
1959. Walton, G. Public Health Aspects of the Contamination of Ground Water in South Platte River Basin in the vicinity of Henderson, Colorado, August, 1959. USPHS (Mimeographed).
1959. World Health Organization. Bibliography of Pesticides Toxicity and Accidental Poisoning. WHO/Insecticides/90 (9 pp.)
1960. Association of Official Agricultural Chemists. Official Methods of Analysis. Washington, D.C. 9th Edition.
1960. Cohen, J.M. et. al. Effects of Fish Poisons on Water Supplies. I. Removal of Toxic Materials. J. Amer. Waterworks Assn. 52(12): 1551-1565.
1960. Cottam, C. Report of Pesticide Committee. Convention, International Assn. Game, Fish & Conservation Commissioners 49: 82-96.
1960. Hueper, W.C. Cancer Hazards from Natural and Artificial Water Pollutants. Pp.181-193 in: Proceedings, Conference on Physiol. Aspects of Water Quality, Washington, D.C., September 1960. USPHS.

1960. Mader, D.L. Effects of Humus of different Origin in moderating the Toxicity of Biocides. Ph.D Thesis, University of Wisconsin.

1960. Westlake, W.E. & San Antonio, J.P. Insecticide Residues in Plants, Animals and Soils. Pp. 105-115 in: The Nature and Fate of Chemicals applied to Soils, Plants and Animals. USDA, Agricultural Research Service, ARS 20-9.

[1961?]. Cottam, C. Chemical Pesticides—a National Problem. Washington: National Wildlife Federation. (9 pp). [Copies obtainable from National Wildlife Federation, 1412, 16th Street N.W., Washington 20036].

1961-62. Wilson Ornithological Society, Conservation Committee, Reports. Wilson Bulletin 73: 310-319; 74: 205-224.

1961-64. American Ornithologists' Union, Committee on Bird Protection, Reports. Auk 78: 244-255; 79:463-478; 80:352-364 & 81:417-425.

1962. Gaines, T.B. Poisoning by Organic Phosphorus Pesticides Potentiated by Phenothiazine Derivatives. Science 138(3546): 1260-1261. (Pesticide Progress 1(5):169).

1962. Mahoney, C.H. Flavour and Quality Changes in Fruits and Vegetables in the United States caused by Application of Pesticide Chemicals. Pesticide Reviews 1:11-23 (See Pesticide Progress 1(5):149-150).
Proceedings,

1962. Mason, E.A. Pesticides in Relation to Environment. International Ornithological Congress, Ithaca , N.Y. 13:

1962. World Health Organization (Expert Committee on Insecticides, Report No. 12). Toxic Hazards of Pesticides to Man. WHO Technical Report Series No. 227 (32 pp.)

1963. Anon. Pesticide Sales Rise but Profits remain Static. Pesticide Progress 1(3): 81-82 [Reprinted from Agric. Chemicals 18(1):32]

1963. Benedict, W.V. & Baker, W.L. Pesticides in Forestry—a Review of Current Practices. Journal of Forestry 61: 340-344.(WR 110:6).

1963. Butler, P.A. & Springer, P.F. Pesticides—a New Factor in Coastal Environments. TNAWC 28: 378-390. (WR 112:6).

1963. Carson, Rachel. Environmental Hazards: Control of Pesticides and other Chemical Poisons. Statement before the Subcommittee on Re-organization and International Organizations of the U.S. Senate Committee on Government Operations, June 4, 1963. [Reprinted in Canada. House of Commons. 1st Session—26th Parliament. Special Committee on Food & Drugs. Minutes of Proceedings & Evidence No. 16. Appendix "A": 585-591].

1963. Carson, Rachel. Statement before the U.S. Senate Committee on Commerce at Hearing on S.1250 and S.1251, June 6, 1963. [Reprinted in Canada. House of Commons. 1st Session—26th Parliament. Special Committee on Food & Drugs. Minutes of Proceedings and Evidence No. 16. Appendix "B": 592-594].

1963. Cope, O.B. Pesticide-Wildlife Relations. Proceedings, 3rd Seminar on Biological Problems in Water Pollution, Cincinnati, Ohio. USPHS.

1963. Cottam, C. & Scott, T.G. A Commentary on Silent Spring. JWI 27: 151-155.

1963. Cummings, M.W. Pesticides in Vertebrate Pest Control. Proceedings, 2nd Annual Conference on the Use of Agricultural Chemicals in California. (4 pp.). (WR 110:6).

1963. Entomological Society of America. Report of the Meetings, St. Louis, Missouri, December 1963. Pesticide Progress 2: 45-50. [Includes a Statement on Pesticides].
1963. Greenberg, D.S. Pesticides: White House Advisory Body issues Report Recommending Steps to Reduce Hazard to Public. Science 140 (3569): 878-879. (24 May, 1963).
1963. Lovell, J.B. The Relationship of Anticholinesterase Activity, Penetration, and Insect and Mammalian Toxicity of certain Organophosphorus Insecticides. Journal of Economic Entomology 56(3):310-317. (WR 112:7)
1963. President's Science Advisory Committee. The Use of Pesticides. May, 1963; 25 pp. [Obtainable from Press Release Office, Executive Office Building, Washington, D.C.] (WR 111:6)
[Partially abstracted in Pesticide Progress (Ottawa) 1(4): 115-120].
1963. Shannon, W.T. California's Wildlife-Pesticide Problems. Statement before the Senate Agricultural Interim Committee, October 22, 1963. (11 pp.). (Mimeographed).
1963. World Health Organization (Expert Committee on Insecticides, Report No. 13). Insecticide Resistance and Vector Control. WHO Technical Report Series No. 265 (227 pp.).
1964. Anon. Pesticides: A Bibliography of Articles from the Journal of the American Medical Association, January 4, 1947 to July 27, 1963. Pp. 296-303 in: U.S. Senate Committee on Government Operations, Subcommittee on Re-organization and International Organizations, Interagency Coordination in Environmental Hazards (Pesticides). Washington: Government Printing Office. [see bottom of p.2 of this compilation].
1964. Anon. Insecticide Recommendations for the Control of Insects attacking Crops and Livestock for 1964. USDA Agricultural Research Service, Agriculture Handbook No. 120 (1964 Edition). (202 pp.).
1964. Cook, J.W. Progress Report on Collaborative Pesticide Residue Methods Studies in North America. Pesticide Progress (Ottawa) 2(1): 15-24.
1964. Moore, J.A. (Editor). Nature, Man and Pesticides. Proceedings, Volume 7, 16th International Congress of Zoology, Washington, 1963 (44pp.).
1964. Pomeroy, R.W. (Editor). Pesticides--their Use and Effect. Proceedings of a 1963 Symposium sponsored by the New York State Joint Legislative Committee on Natural Resources.
1964. BioScience. The Entire issue of November 1964 will be devoted to the Subject of Pesticides. (BioScience, November, 1964). *check*

General Effects:

1938. Frost, A. Effect upon Wildlife of Spraying for Control of Gipsy Moths. JWM 2: 13-16.
1944. Nelson, A.A. et. al. Histopathological Changes following administration of DDT to several Species of Animals. USPHS Report 59(31): 1009-1020.
1946. Coburn, D.R. & Treichler, R. Experiments on Toxicity of DDT to Wildlife. JWM 10: 208-216.
1946. Cottam, C. & Higgins, E. DDT: its Effects on Fish and Wildlife. USFWS Circular 11 (14 pp.).
1946. Storer, T.I. DDT and Wildlife. JWM 10: 181-183.
1947. Nelson, A.L. & Surber, E.W. DDT Investigations by the Fish and Wildlife Service in 1946. USFWS Scientific Report No. 41 (8 pp.).
1948. Cope, O.B. Toxicities and Tolerances of new Insecticides in Relation to Fish and Wildlife. California Mosquito Control Association, Proceedings and Papers, 1948: 26-29.
1948. Linduska, J.P. & Surber, E.W. Effect of DDT and other Insecticides on Fish and Wildlife--Summary of Investigations during 1947. USFWS Circular 15 (19 pp.).
1949. Adams, L. et. al. The Effects on Fish, Birds, and Mammals of DDT used in the Control of Forest Insects in Idaho and Wyoming. JWM 13:245--
1949. Goodrum, P. et. al. Effect of DDT on Animal Life of Bull's Island, South Carolina. JWM 13:1--
1949. Springer, P.F. & Webster, J.R. Effects of DDT on Salt-Marsh Wildlife:1949. USFWS, Special Scientific Report, Wildlife No. 10.
1951. Benton, A.H. Effects on Wildlife of DDT used for Control of Dutch Elm Disease. JWM 15: 20-27.
1951. Springer, P.F. & Webster, J.R. Biological Effects of DDT applications on Tidal Salt Marshes. Mosquito News 11(2): 67-74 (also TNAWC 16: 383-396).
1951. Stickel, L.F. Wood Mouse and Box Turtle Populations in an Area Treated Annually with DDT for Five Years. JWM 15: 161--
1952. Blagbrough, H.P. Reducing Wildlife Hazards in Dutch Elm Disease Control. Journal of Forestry 50: 468-469.
1952. Hanson, W.R. Effects of some Herbicides and Insecticides on Biota of North Dakota Marshes. JWM 16: 299-308.
1955. DeWitt, J.B. et. al. DDT vs. Wildlife. Relationship between Quantities ingested, Toxic Effects and Tissue Storage. J. Amer. Pharmaceutical Association Sci. Ed. 44(1): 22-24.
1955. Treon, J.F. et. al. Toxicity of endrin for Laboratory Animals. J. Agric. Food Chemistry 3: 842-848.
1957. George, J.L., Darsie, R.F. & Springer, P.F. Effects on Wildlife of Aerial Applications of strobane, DDT and BHC to Tidal Marshes in Delaware. JWM 21: 42-53. (WR 88:7).
- 1958-59. Anon. Quotable Quotes on the Imported Fire Ant Program. Alabama Conserv. 30(4): 16-19, 25. (WR 95:15).

1958. Allen, R.H. Wildlife Losses in Southern Fire Ant Program. Passenger Pigeon 22(4): 144-147. (WR 95:14).
- 1958-59. Arant, F.S. et. al. Facts about the Imported Fire Ant. Alabama Conserv. 30(4): 20-22.
1958. Baker, M.F. Observations of Effects of an Application of heptachlor or dieldrin on Wildlife. PACSEAGFC 12: 244-247.
1958. Cope, O.B. & Springer, P.F. Mass Control of Insects: the Effects on Fish and Wildlife. Entomological Society of America, Bulletin 4:52-56.
1958. Gabrielson, I.N. Pesticides, Blessing or Curse ? Amer. Forestry 64(11): 4-5, 40-41. (WR 94:11).
1958. George, J.L. The Program to Eradicate the Imported Fire Ant. Preliminary Observations. Conservation Foundation (30 East 40th Street, New York 16, N.Y.) (39 pp.). (WR 94:11).
1958. Graham, S.A. Applications of Insecticides to Forests: the Negative Side. Journal of Forestry 56(12): (WR 94:14).
1958. Martin, J.P. et. al. What Pesticides do to Soils. I. Fumigants, Fungicides, and the Soil. II. Insecticides and the Soil. III. Herbicides and the Soil. J. Agric. & Food Chemistry 6(5):344-353.
1958. Rudd, R.L. The Indirect Effects of Chemicals in Nature. pp. 12-16 in: Effects of Toxic Pesticides on Wildlife. Papers given at 54th Annual Convention, National Audubon Society (1130-5th Avenue, New York 28, N.Y.). (WR 95:18).
1959. Allen, D.L. Poison from the Air. Field & Stream 63(10): 49-51. (WR 95:14).
1959. Anon. Dutch Elm Disease Control Program. Annual Report, Michigan Department of Agriculture (23 pp.).
1959. Briejer, C.J. Need for Re-orientation in the Field of Insect Control. Atlantic Naturalist 14(2): 97-104. (WR 96:12).
1959. George, J.L. Effects on Fish and Wildlife of Chemical Treatments of Large Areas. Journal of Forestry 57: 250-254. (WR 96:13).
1959. Rudd, R.L. Rodent Control by Aircraft and Pesticidal Hazards to Wildlife. California Vector Views 6(4): 23-25.
1959. Wallace, G.J. Some Biological Effects of Insecticides on Non-target Organisms. Carolina Tips 22(8): 29-31. (WR 97:9).
1960. DeWitt, J.B. et. al. Pesticidal Residues in Animal Tissues. TNAWC 25: 277-285. (WR 101:5).
1960. George, J.L. The Pesticide Problem. Wildlife—the Community of Living Things. Massachusetts Audubon 44(5): 226-232.
1960. George, J.L. Effects on Wildlife of Pesticide Treatments of Water Areas. pp. 94-102 in: Proceedings, Symposium on Coordination of Mosquito Control and Wildlife Management, Washington, D.C.
1960. George, J.L. Possible Effects of Widespread Use of Forest Chemicals on Wildlife Populations. Louisiana State University, Annual Forestry Symposium (The Use of Chemicals in Southern Forests) 9: 140-152. Baton Rouge, La. ✓
Dewitt
1960. Hunt, E.G. & Bischoff, A.I. Inimical Effects on Wildlife of Periodic DDD Applications to Clear Lake. California Fish & Game 46: 91-106. (WR 98:11)

1960. Worrell, A.C. Pests, Pesticides and People. Amer. Forest. 66(7): 39-81.
(WR 105:5).
1961. Brown, W.L. Mass Insect Control Programs: Four Case Histories. Psyche
68: 75-109. (Auk 80: 364).
1961. George, J.L. & Cope, O.B. The Program of Research Relating to Pesticides.
Transactions, North East Wildlife Conference, Halifax, Nova
Scotia. (10 pp.).
1961. Klimstra, W.D. Lack of Authoritative Data Clouds Pesticide-Wildlife
Picture. Agric. Chem. 16(9): 14-16, 143-144. (WR 104:5).
1961. Peters, H.S. Getting Together on Mosquito Control. Proceedings, Annual
Meeting, New Jersey Mosquito Extermination Association 48:
63-67. (WR 108:6).
1962. Hazeltine, W. Safety of Wildlife is important to planners of Gnat-control
Program. Agric. Chem. 17(12): 12-14. (WR 109:5).
1962. Hunt, E.G. California's Investigations Regarding Pesticide Problems.
Proceedings, Annual Conference Western Assn. State Game & Fish
Commissioners 41: 159-164.
1962. Rosene, W., Stewart, P. & Adomaitis, V. Residues of heptachlor epoxide in
Wild Animals. PACSEAGFC 15: 107-113. (WR 108:6).
1963. Finley, R.B. & Pillmore, R.E. Conversion of DDT to DDD in Animal Tissues.
American Institute of Biological Sciences (AIBS), Bulletin
13(3): 41-42. (WR 112:7)
1963. Hunt, E.G. Pesticide Residues in Fish and Wildlife Populations. Proceedings,
Annual Conference Western Assn. State Game & Fish Commissioners
43: 129-132. (WR 112:7).
1963. Hunt, E.G. & Keith, J.O. Pesticide-Wildlife Investigations in California,
1962. Proceedings, 2nd Annual Conference on the Use of
Agricultural Chemicals in California. (29 pp.). (WR 110:7).
1964. Davey, S.P. Effects of Chemicals on Earthworms--A Review of the Literature.
USFWS, Special Scientific Report--Wildlife No. 74.
1964. Ferguson, D.E. Some Ecological Effects of heptachlor on Birds. JWM 28:
158-163.
1964. Giles, R.H. The Ecology of a Small-Forested Watershed Treated with the
Insecticide Malathion S-35. Wildlife Monographs No. 15
(The Wildlife Society).

Aquatic Invertebrates (including Shellfish and the Food of Fishes):

- [Other references to aquatic invertebrates will be found in the next section, under Fish]
1947. Loosanoff, V.L. Effects of DDT upon setting, growth and survival of Oysters. *Fishing Gazette* 64(5): 94,96.
1956. Bostick, U. Is DDT converting some National Forests into Biological Deserts? *Nature Magazine* 49(4): 202-204, 219.
1957. Chin, E. & Allen, D.M. Toxicity of an Insecticide to two species of Shrimp, *Penaeus aztecus* and *Penaeus setiferus*. *Texas Journal of Science* 9(3): 270-278.
1960. Butler, P.A. et. al. Evaluation of Effects of Pesticides on Oysters, *Proceedings, National Shellfisheries Association* 51:
1960. Davis, H.C. Effects of some Pesticides on Eggs and Larvae of Oysters (*Crassostrea virginica*) and Clams (*Venus mercenaria*). *Proceedings, National Shellfisheries Association* 51:
1960. Loosanoff, V.L. Some Effects of Pesticides on Marine Arthropods and Mollusks, pp. 89-93 in Robert A. Taft Sanitary Engineering Center, Technical Report W60-3. (USPHS)
1960. Ukeles, R. The Effect of several Toxicants on Five Genera of Marine Phytoplankton. *Proceedings, National Shellfisheries Association* 51:

Fish:

[For Canadian studies see especially under New Brunswick pp7-9, and British Columbia pp. 4-5]

1946. Surber, E.W. Effects of DDT on Fish. *JWM* 10: 183-191.
1947. Hess, A.D. & Keener, G.G. Effect of Airplane distributed DDT-thermal Aerosols on Fish and Fish Food Organisms. *JWM* 11: 1--
1948. Prévost, G. et. al. Effect of volume on the determination of DDT or rotenone toxicity of fish. *JWM* 12:241--
1951. Young, L.A. & Nicholson, H.P. Stream Pollution resulting from the Use of Organic Insecticides. *Progressive Fish Culturist* 13(4): 193-198.
1956. Burden, E.H:W.J. A Case of DDT poisoning in Fish. *Nature* 178(4532): 546-547. (WR 91:15)
1957. Tarzwell, C.M. & Henderson, C. Toxicity of dieldrin to Fish. *TAFS* 86: 245-257. (WR 93:17)
1957. Webbe, G. The Action on Fish of several Chlorinated Hydrocarbons when used as Larvicides. *Ann. Trop. Med. & Parasit.* 51(3):264-270.
1958. Allen, D.L. Pesticides. A Major Problem for Anglers and Hunters. *Fisherman* 9(6): 17, 84-87. (WR 92:16)
1958. Graham, R.J. & Scott, D.O. Effects of Forest Insect Spraying on Trout and Aquatic Insects in some Montana Streams. *Montana Fish & Game Department, Final Report PR Project F-2L-R. (50 pp.)*(WR 94:12)
1958. Harrington, R.W. & Bidlingmayer, W.L. Effects of dieldrin on Fishes and Invertebrates of a Salt Marsh. *JWM* 22:76-82. (WR 91:16)
1958. Henderson, C. et. al. The relative Toxicity of Ten Chlorinated Hydrocarbon Insecticides to Four Species of Fish. Paper at 88th Annual Meeting, American Fisheries Society.

1958. Henderson, C. & Pickering, Q.H. Toxicity of Organic Phosphorus Insecticides to Fish. TAFS 87: 39-51. (WR 95:16).
1958. Iyatomi, K. Toxicity of endrin to Fish. Progressive Fish Culturist 20(4): 155-162.
1958. Tarzwell, C.M. The Toxicity of some Organic Insecticides to Fishes. PACSEAGFC 12: 233-239.
1959. Boudreaux, J. et. al. Fire Ants, heptachlor and Fish Kill. Southwestern Naturalist 3:7-12.
1959. Tarzwell, C.M. The Toxicity of some Organic Insecticides to Fishes. PACSEAGFC 12:7-13. (WR 95:18)
1959. Tarzwell, C.M. Pollutional Effects of Organic Insecticides to Fishes. TNAWC 24: 132-142.
1960. Butler, P.A. Effects of Pesticides on Commercial Fisheries. Proceedings, Gulf and Caribbean Fisheries Institute, Annual Session 13: 168-171.
1960. Cope, O.B. The Retention of DDT by Trout and Whitefish. pp. 72-75 in: Biological Problems in Water Pollution. Transactions, 2nd Seminar on Biological Problems in Water Pollution, USPHS, Technical Report W 60-3 (Cincinnati).
1960. Graham, R.J. Effects of Forest Insect Spraying on Trout and Aquatic Insects in some Montana Streams, in: Biological Problems in Water Pollution, USPHS Technical Report W60-3 (Cincinnati).
1960. Graham, R.J. & Scott, D.O. Effects of Forest Insect Spraying on Trout and Aquatic Insects in some Montana Streams. Montana State Fish & Game Department, Final Report 1958, PR Proj. F-21-R (40 pp.)
1960. Warner, K. & Fenderson, O.C. Effects of Forest Insect Spraying on northern Maine Trout Streams. Maine Department of Inland Fisheries and Game, Federal Aid Project F-8-R-7. Mimeographed (32 pp.)
1961. Report of Investigation of the Colorado River Fish Kill, January 1961. Texas Game and Fish Commission. Mimeographed.
1961. Pollution-caused Fish Kills in 1960. USPHS, Publ. No. 847: 1-20.
1961. Bridges, W.R. & Andrews, A.K. Effects of DDT spray on Fish and Aquatic Insects in Gallatin River Drainage in Montana. USFWS, Special Scientific Report--Fisheries No. 391 (4 pp.).
1961. Cope, O.B. Effects of DDT Spraying for Spruce Budworm on Fish in the Yellowstone River System. TAFS 90(3): 239-251.
1961. Frey, P.J. Effects of DDT spray on Stream Bottom Organisms in Two Mountain Streams in Georgia. USFWS, Special Scientific Report--Fisheries. No. 392 (11 pp.).
1962. Kallman, B.J., Cope, O.B. & Navarre, R.J. Distribution and Detoxication of toxaphene in Clayton Lake, New Mexico. TAFS 91:14-22.
1962. King, S.F. Some Effects of DDT on the Guppy and the Brown Trout. USFWS, Special Scientific Report--Fisheries No. 399. (22 pp.).
1963. Breidenbach, A.W. & Lichtenberg, J.J. DDT and dieldrin in Rivers: A Report of the National Water Quality Network. Science 141 (3584): 899-901. (Pesticide Progress 1(5):167).
1963. Dean, H.J. Why the Lake Trout Fry died---DDT. The Conservationist (Conservation Department, State of New York) 18(3):5-7.

1963. Schoenthal, N.D. Some Effects of DDT on Cold Water Fish and Fish-food Organisms. Proceedings, Montana Academy of Sciences 23:63-95.

1964. Dean, H.J. American Journal of Fisheries. [Reference not Ascertained]

Amphibia & Reptilia:

1957. Fashingbauer, B.A. The Effects of Aerial Spraying with DDT on Wood Frogs. Flicker 29(4): 160 (WR 91:15)

[See also Stickel (1951) on p. 15]

Birds (General; mainly Songbirds):

1946. Hotchkiss, N. & Pough, R.H. Effect on Forest Birds of DDT used for Gypsy Moth Control in Pennsylvania. JWM 10: 202-207.

1946. Mitchell, R.T. Effects of DDT Spray on Eggs and Nestlings of Birds. JWM 10: 192-194.

1946. Stewart, R.E. et. al. Effects of DDT on Birds at the Patuxent Research Refuge. JWM 10: 195-201.

1947. George, J.L. & Mitchell, R.T. Studies on the Effects of Feeding DDT treated Insects to Nestling Birds. Journal of Economic Entomology 40: 782-789.

1949. Odum, E.P. & Norris, R.A. Effect of DDT on Birds in Georgia Pecan Orchards with a note on Late summer Census Methods. JWM 13: 415--

1949. Robbins, C.S. & Stewart, R.E. Effects of DDT on Bird Population of Scrub Forest. JWM 13: 11--

1951. Post, G. A Study of aldrin Insecticide: its Effects on Birds and other Wildlife. Wyoming Wildlife 15: 4-7, 32-36.

1951. Robbins, C.S. et. al. Effects of Five-year DDT Application on Breeding Bird Population. JWM 15: 213--

1952. Eng, R.L. A Two-summer Study of the Effects on Bird Populations of chlordane Bait and aldrin Spray as used for Grasshopper Control. JWM 16: 326-337.

1952. Post, G. The Effects of aldrin on Birds. JWM 16: 492--

1953. Mitchell, R.T. et. al. The Effects of DDT upon the Survival and Growth of Nestling Songbirds. JWM 17: 45--

1955. Rudd, R.L. & Genelly, R.E. Avian Mortality from DDT in California Rice Fields. Condor 57: 117-118.

1956. Montgomery, A.E. Bird Mortality in Elmhurst. Audubon Bulletin (Illinois) 99: 1-3. (WR 87:14)

1958. Barker, R.J. Notes on some Ecological Effects of DDT Sprayed on Elms. JWM 22: 269-274. (WR 93:15)

1958. DeWitt, J.B. Birds and Dutch Elm Disease Control. Proceedings, 13th Midwestern Shade Tree Conference: 3-7 (Mimeographed) (WR 93:15)

1958. Glasgow, L.L. Studies on the Effect of imported Fire Ant Control Program on Wildlife in Louisiana. PACSEAGFC 12: 250-255.

1958. Lay, D. Count Three for Trouble. Texas Game & Fish 16(7): 4-7. (WR 93:15)

1959. Griffin, D.N. The Poisoning of Meadowlarks with Insecticides. Wilson Bulletin 71:193. (WR 97:8)
1959. Mehner, J.F. & Wallace, G.J. Robin Populations and Insecticides. Atlantic Naturalist 14(1): 4-10.
1959. Scott, T.G. et. al. Some Affects of a Field Application of dieldrin on Wildlife. JWM 23: 409-427. (WR 98:12)
1959. Wallace, G.J. Insecticides and Birds. Audubon Magazine 61(1):10-12,35. (WR 95:19)
1960. Hickey, J.J. & Hunt, L.B. Initial Songbird Mortality following a Dutch Elm Disease Control Program. JWM 24: 259-265.
1960. Hickey, J.J. & Hunt, L.B. Songbird Mortality following Annual Programs to Control Dutch Elm Disease. Atlantic Naturalist 15(2):87-92.
1960. Hunt, L.B. Songbird Breeding Populations in DDT-sprayed Dutch Elm Disease Communities. JWM 24: 139-146.
1960. Wallace, G.J. Another Year of Robin Losses on a University Campus. Audubon Magazine 62(2): 66-69.
1961. Hickey, J.J. Some Effects of Insecticides on Terrestrial Bird-Life. Subcommittee on Relation of Chemicals to Forestry and Wildlife, Madison, Wisconsin, Special Report No. 6.
1961. Hickey, J.J. Some Effects of Insecticides on Terrestrial Birdlife in the Middle West. Wilson Bulletin 73: 398-424. (Auk 79:510 & 80:364).
- 1961 & 1962. Scott, T.G. et. al. Annual Report of the Conservation Committee. Wilson Bulletin 73: 310-319; 74: 205-224.
1961. Wallace, G.J., Nickell, W.P. & Bernard, R.F. Bird Mortality in the Dutch Elm Disease Program in Michigan. Cranbrook Institute of Science, Bulletin No. 41. (44 pp.)
1962. Bernard, R.F. Field and Laboratory Studies on the Effects of DDT on Birds. Ph.D Thesis, Michigan State University (WR 108:63)
1963. Bernard, R.F. Studies of the Effects of DDT on Birds. Michigan State University, Museum Publications, Biological Series 2(3):155-192. (Pesticide Progress - (Ottawa) 1(2):59-60).
1963. Etter, A.G. When a State Spray Kills the State Bird. Audubon Magazine 65:134-137. (WR 110:6)
1963. Wallace, G.J. & Bernard, R.F. Studies on the Effects of DDT on Birds. Proceedings, International Ornithological Congress, Ithaca, N.Y. 13:
1963. Wallace, G.J. & Bernard, R.F. Tests show 40 Species of Birds poisoned by DDT. Audubon Magazine 65(4): 198-203. (WR 111:6)
1964. Sperier, P. They Seek Pesticides in Whooping Crane Eggs. Dixie, 12 July, 1964.
1964. Wallace, G.J., Etter, A.G. & Osborne, D.R. Spring Mortality of Birds following Fall Spraying of Elms. Massachusetts Audubon 48(3): 116-120. (WR 113:6).

Waterfowl:

[It is curious that almost nothing has been published independently, i.e. outside of more general reports, on the effects of biocides on ducks, geese, swans, shorebirds and other waterfowl. These groups demand immediate study. Canadian examples are mentioned in Pesticide-Wildlife Studies (1963) on p. 2, and in Charnetski (1964) on p. 5 of this compilation]

1956. Anon. Wild Geese Knocked out in Poison Spray Area. Oklahoma Game and Fish News 12(5): 20. (WR 86:11)

Upland Game Birds:

[In addition to American studies, there is considerable information on the effects of biocides on pheasants under Great Britain (pp. 10-11)].

1947. Rubin, M. et. al. Toxicity of DDT to Laying Hens. Poultry Science 26: 410-413.

1950. Leedy, D.L. & Cole, C.R. The Effects on Pheasants of Corn treated with various Fungicides. JWM 14: 218--

1950. Rosenberg, M. & Adler, H.E. Comparative Toxicity of DDT and chlordane to young Chicks. American J. Vet. Research 11: 142-144.

1951. Post, G. Effects of toxaphene and chlordane on certain Game Birds. JWM 15: 381--

1954. Dahlen, J.H. & Haugen, A.O. Acute Toxicity of certain Insecticides to the Bobwhite Quail and Mourning Dove. JWM 18: 477--

1955. DeWitt, J.B. Effects of Chlorinated Hydrocarbon Insecticides upon Quail and Pheasants. J. Agric. & Food Chemistry 3(8):672-676.

1956. DeWitt, J.B. Toxicity of Chlorinated Insecticides to Quail and Pheasants. Atlantic Naturalist 11(3):115-118. (WR 84:7).

1956. DeWitt, J.B. Chronic Toxicity to Quail and Pheasants of some Chlorinated Insecticides. J. Agric. & Food Chemistry 4(10): 863-866. (WR 88:6).

1956. Genelly, R.E. & Rudd, R.L. Effects of DDT, toxaphene and dieldrin on Pheasant Reproduction. Auk 73: 529-539. (WR 88:7)

1956. Genelly, R.E. & Rudd, R.L. Chronic Toxicity of DDT, toxaphene and dieldrin to Ring-necked Pheasants. California Fish & Game 42(1): 5-14. (WR 84:7)

1958. Baker, M.F. Observations of Effects of an Application of heptachlor or dieldrin on Wildlife. The Fire Ant Eradication Program and how it Affects Wildlife. The Wildlife Foundation: 18-21.

1958. Clawson, S.G. Wild Turkey Populations on an Area treated with heptachlor and dieldrin. Alabama Bird Life 6(3-4): 4-8.

1958-1959. Clawson, S.G. Fire Ant Eradication---and Quail. Alabama Conservation 30(4): 14-15, 25. (WR 95:15)

1959. Baker, M.F. Observations of Effects of an Application of heptachlor or dieldrin on Wildlife. PACSEAGFC 12: 18-21. (WR 95:15).
1959. Clawson, S.G. & Baker, M.F. Immediate Effects of dieldrin and heptachlor on Bobwhites. JWM 23: 215-219. (WR 96:12).
1959. Rosene, W. Whistling-cock Counts of Bobwhite Quail on Areas treated with Insecticides and on Untreated Areas, Decatur County, Georgia. PACSEAGFC 12: 240-244 (or 14-18).
1960. Stempel, M.E. Penned Game Birds in dieldrin treated Fields. Proceedings, Iowa Academy of Sciences 66: 553-557. (WR 100:9).
1962. Albert, T.F. The Effect of DDT on the Sperm Production of the Domestic Fowl. Auk 79: 104-107. (WR 106:6).
- ? . Cross, D.L., King, H.L. & Haynes, D.L. The Effects of DDT in the Diet of Japanese Quail. Michigan Quarterly Bulletin 44: 688--

Birds of Prey:

[The literature on the effects of biocides on Birds of Prey is even more extensive for Great Britain (pp. 10-11) and for Europe (see especially the Dutch item below) than it is for North America, where it is of a scattered nature and is devoted almost exclusively to the decline of the Bald Eagle. The significance of the decline in Birds of Prey and of the high infertility, abnormal behaviour and high residue levels in Birds of Prey cannot be over-emphasised. It indicates what is happening at the end of one major Food-Chain. The Dutch reference follows:--

Nederlandse Vereniging tot Bescherming van Vogels. Het Vogeljaar. June 1963.

(The entire issue of June 1963 of Het Vogeljaar is devoted to the decrease of Birds of Prey. See item B 52 (on p. 21) of "The Widespread Pollution..... An Introduction to the Subject through Direct Quotations from Published Reports" (Myres, 1964), the companion to this Bibliography)]

1947. Broley, C.L. Migration and Nesting of Florida Bald Eagles. Wilson Bulletin 59: 1-20.
1950. Broley, C.L. The Flight of the Florida Bald Eagle. Audubon Magazine 52(1): 42-49.
1957. Broley, C.L. The Bald Eagle in Florida. Atlantic Naturalist, 12(5): 230-231. (WR 90:73)
1958. Broley, C.L. The Flight of the Bald Eagle. American Audubon Magazine, 60(4): 162-163, 171. (WR 93:75)
1959. McLaughlin, F. Bald Eagle Survey in New Jersey. New Jersey Nature News 16(2):25; 16(3):51.
1960. Cunningham, R.L. The Status of the Bald Eagle in Florida. Audubon Magazine, January-February, 1960: 24-43.
1960. Robbins, C.S. Status of the Bald Eagle: Summer of 1959. USFWS, Wildlife Leaflet No. 418.
1961. Sprunt, A.IV. & Cunningham, R.L. Continental Bald Eagle Project: Progress Report # 1. National Audubon Society. Mimeographed (7 pp.).
1962. DeWitt, J.B. & Buckley, J.L. Studies on Pesticide-Eagle Relationships. Audubon Field Notes 16(6): 541.
1962. Bernard, R.F. Secondary ^{DDT} Poisoning in a Sparrow Hawk. Auk 79:276-277.
1958. Sprunt, A. et. al. More About Florida Bald Eagles. Audubon Magazine 60(6): 284-286. (WR 94:77).

1962. Howell, J.C. The 1961 Status of some Bald Eagle Nest Sites in East-central Florida. Auk 79: 716-718.
1962. Sprunt, A.IV. & Cunningham, R.L. Continental Bald Eagle Project. Progress Report # 2. National Audubon Society, New York. Mimeographed. (11 pp.).
1963. Taylor, J.W. Eagles or Pesticides ? Maryland Conservation 40(1):2-6. (WR 110:7)
1964. Ames, P.L. & Mersereau, G.S. Some Factors in the Decline of the Osprey in Connecticut. Auk 81: 173-185.
1964. Berger, D.D. The Status of Breeding Peregrines in the Eastern States and the Maritime Provinces. Paper read at the 82nd Stated Meeting, American Ornithologists' Union, Lawrence, Kansas. Mimeographed. (3 pp.).

Mammals, including Big Game, Livestock & Man:

1948. Smith, R.F. et. al. Secretion of DDT in Milk of Dairy Cows fed low-Residue Alfalfa. Journal of Economic Entomology 41: 759-763.
1950. Laug, E.P. et. al. Liver Cell Alteration and DDT Storage in the Fat of the Rat Induced by Dietary Levels of 1 to 50 p.p.m. DDT. J. Pharmacol. & Exper. Therapeut. 98: 268.
1951. Laug, E.P. et. al. Occurrence of DDT in Human Fat and Milk. American Medical Association Archives Industr. Hygiene & Occupational Medicine 9: 245-246.
1953. Mattson, A.H. et. al. Determination of DDT and related substances in Human Fat. Analytical Chemistry 25: 1065-1070.
1954. Bidstrup, P.L. et. al. Anticholinesterases (Paralysis in Man following Poisoning by Cholinesterase Inhibitors). Chem. & Industry 24: 674-676.
1955. Radeleff, R.D. et. al. The Acute Toxicity of Chlorinated Hydrocarbon and Organic Phosphorus Insecticides to Livestock. USDA, Technical Bulletin No. 1122.
1956. Hayes, W.J., Durham, W.F. & Cueto, C. The Effect of known repeated oral doses of chlorophenothane (DDT) in Man. Journal of the American Medical Association 162: 890-897.
1957. Barnes, J.M. Control of Health Hazards associated with the Use of Pesticides. pp. 1-38 in Advances in Pest Control Research, Vol. 1 (Edited by R.L.Metcalf). New York: Interscience Publ.
- 1957-1960. Occupational Disease in California attributed to Pesticides and other Agricultural Chemicals. California Department of Public Health.
1958. Hayes, W.J. et. al. Storage of DDT and DDE in People with Different Degrees of Exposure to DDT. American Medical Association, Archives Industr. Health 18: 398-406.
1958. Ortelee, M.F. Study of Men with Prolonged Intensive Occupational Exposure to DDT. American Medical Association, Archives of Industrial Health 18: 433-440.
1958. Peters, H. Is it possible that you are being Stung ? Florida Wildlife 12(6): 4, 42. (WR 94:13).

1958. Quinby, G.E. & Lemmon, A.B. Parathion Residues as a Cause of Poisoning in Crop Workers. Journal of the American Medical Association 166: 740-746.
1959. Hayes, W.J. The Toxicity of dieldrin to Man. World Health Organization, Bulletin 20: 891-912.
1959. Jacobziner, H. & Raybin, H.W. Poisoning by Insecticide (endrin). New York State Journal of Medicine 59: 2017-2022.
1959. Kerr, S.H. & Brogdon, J.E. Relative Toxicity to Mammals of 40 Pesticides. Agricultural Chemistry 14(9): 44-45, 135-136. (WR 98:17).
1959. Lay, D.W. Fire Ant Eradication and Wildlife. PACSEAGFC 12:22-24. (WR 95:17).
1960. Radeleff, R.D. & Bushland, R.C. The Toxicity of Pesticides for Livestock. pp. 134-160 in: The Nature and Fate of Chemicals Applied to Soils, Plants and Animals. USDA, Agricultural Research Service ARS 20-9.
1961. Al-Azawi, A.F. et. al. Hazards associated with the Implantation of Tetram into Elm Trees for Dutch Elm Disease Control. Journal of Economic Entomology 54: 127-129. (WR 103:8).
1961. Drury, W.H. Pesticide Applications and the Public Welfare. Massachusetts Audubon 46: 24-35. (WR 106:7).
1961. Durham, W.F. et. al. Insecticide Content of Diet and Body Fat of Alaskan Natives. Science 134 (3493): 1880-1881.
1961. Finley, R.B. Direct and Indirect Effects of some Insecticides on Western Wildlife. Proceedings, Annual Conference of the Western Association of State Game and Fish Commissioners 40: 121-129. (WR 105:4).
1961. Ivey, M.C. et. al. Aldrin and dieldrin Content of Body Tissues of Livestock receiving aldrin in their Diet. J. Agric. & Food Chemistry 9(5): 374-376. (Pesticide Progress 1(3):92).
1961. Namba, T. Oxime Therapy for Poisoning by alkylphosphate Insecticides. 13th International Congress on Occupational Health, Proceedings.
1961. Pillmore, R.E. Insecticide Residues in Big Game Animals. USFWS, Denver, Colorado, Mimeographed. (10 pp.).
1961. Rudd, R.L. The Ecological Consequences of Chemicals in Pest Control, particularly as regards their Effects on Mammals. In: Kuenen, D.J. (Editor), The Ecological Effects of Biological and Chemical Control of Undesirable Plants and Animals. Symposium, 8th Technical Meeting, International Union for the Conservation of Nature and Natural Resources (IUCN), Warsaw, 1960. Leiden: E.J.Brill.
1962. Arnan, A. Accidental Poisoning from Agricultural Pesticides. World Health Organization, Bulletin 26: 109-120.
1962. Cueto, C. & Hayes, W.J. The Detection of dieldrin Metabolites in Human Urine. J. Agric. & Food Chemistry 10: 366-369.
1962. Francis, J.I. & Barnes, J.M. Studies on the Mammalian Toxicity of Fenthion (Dimethyl 4-Methylthio-3-tolyl Phosphorothionate). World Health Organization/ Vector Control/ 3-WHO/Mal/347. (17 pp.). (WR 110:7)
1962. Khan, M.A. et. al. Toxicity of Sevin (1-naphthyl N-Methylcarbonate) to Cattle Grubs, Lice and Cattle. Canadian Journal of Comp. Med. Vet. Science 26: 234-237.

1963. Dale, W.E. & Quinby, G.E. Chlorinated Insecticides in the Body Fat of People in the United States. Science 142 (3592): 593-595.
1963. Durham, W.F. Pesticide Residues in Foods in Relation to Human Health. Residue Reviews 4: 33-81.
1963. Elliott, R. & Barnes, J.M. Organophosphorus Insecticides for the Control of Mosquitos in Nigeria. World Health Organization, Bulletin 28: 31-54.
1963. Francis, J.I. & Barnes, J.M. Studies on the Mammalian Toxicity of Fenthion. World Health Organization, Bulletin 29: 205-212.
1963. Hayes, W.J. & Dale, W.E. Storage of Insecticides in French People. Nature 199 (4899) : 1189-1191.
1963. Pillmore, R.E. & Finley, R.B. Residues in Game Animals resulting from Forest and Range Insecticide Applications. TNAWC 28: 409-422. (WR 112:7)
1963. Taylor, A. Observations on Human Exposure to the Organophosphorus Insecticide Fenthion in Nigeria. World Health Organization, Bulletin 29: 213-218.
1963. Wolfe, H.R. et. al. Health Hazards of the Pesticides endrin and dieldrin. Archives Environ. Health 6: 458-464.
1964. Anon. Pesticide Residue Levels in Milk and Milk Products. Pesticide Progress (Ottawa) 2(4): 108-109. [With References].
1964. Bernard, R.F. & Gaertner, R.A. Some Effects of DDT on Reproduction in Nise. Journal of Mammalogy 45: 272-276.
1964. Hayes, W.J. Effects of Pesticides on Human Health. Pp. 27-34 in: Nature, Man and Pesticides. Proceedings, Vol. 7, 16th International Congress of Zoology, Washington, 1963.
1964. Quinby, G.E., Hayes, W.J. & Durham, W.F. DDT in Persons with Various Degrees of Exposure. [In Preparation]

[One most important reference was cited in another section, but is repeated here:

1964. Pesticides: A Bibliography of Articles from the Journal of the American Medical Association, January 4, 1947 to July 27, 1963. Pp. 296-303 in: U.S. Senate Committee on Government Operations, Subcommittee on Re-organization and International Organizations, Interagency Coordination in Environmental Hazards (Pesticides). Washington: Government Printing Office (See p. 2 of this compilation).

In addition to this, references to effects of biocides on mammals do occur both in the General Reviews and General Effects sections and also in other sections where the main noticeable effect was on some other group, e.g. birds. In general it seems that mammals are more resistant to the effects of biocides, but so long as a certain dosage or residue is affecting another group than the mammals the effects on the former must be considered serious enough in themselves to warrant action.]

C. INSECT RESISTANCE, BIOLOGICAL CONTROL ETC...

(All Countries)

[C] = Canada.

1936. Sweetman, H.L. The Biological Control of Insects. Ithaca, N.Y.: Comstock Publishing Co.
1940. Clausen, C.P. Entomophagous Insects. New York: McGraw-Hill.
1950. Thompson, C.G. & Steinhaus, E.A. Further Tests using a Polyhedrosis Virus to Control the Alfalfa Caterpillar. *Hilgardia* 19: 411-445.
1951. Babers, F.H. & Pratt, J.J. Development of Insect Resistance to Insecticides II. A Critical Review of the Literature up to 1951. USDA, E.818.
1955. Baumhover, A.H. et. al. Control of Screw-worms through Release of Sterilized Flies. *Journal of Economic Entomology* 48:462-466.
1955. Knipling, E.F. Possibilities of Insect Control or Eradication through the Use of Sexually Sterile Males. *Journal of Economic Entomology* 48: 459-462.
1956. Clausen, C.P. Biological Control of Insect Pests in the Continental United States. USDA, Technical Bulletin 1139 (151 pp.).
1956. Ripper, W.E. Experiments on the Integration of Biological and Chemical Control of Insect Pests. *Proceedings, 10th International Congress of Entomology* 3: 479-493.
1957. Hall, S.A. et. al. Insect Repellants and Attractants. *J. Agric. & Food Chemistry* 5: 663-669.
- [C] 1958. Brown, A.W.A. Insecticide Resistance in Arthropods. Geneva: World Health Organization, Monograph Series No. 38 (240 pp.)
- [C] 1958. Brown, A.W.A. The Spread of Insecticide Resistance in Pest Species. Pp. 351-414 in: *Advances in Pest Control Research*, Vol. 2
1959. Knipling, E.F. Sterile-male Method of Population Control. *Science* 130 (3380): 902-904.
1959. Laird, M. Biological Solutions to Problems arising from the Use of Modern Insecticides in the Field of Public Health. *Acta Tropica* 16:331-355.
- [C] 1959. Pickett, A.D. Utilization of Native Parasites and Predators. *Journal of Economic Entomology* 52: 1103-1105.
1959. Stern, V. M. et. al. The Integration of Chemical and Biological Control of the Spotted Alfalfa Aphid. *Hilgardia* 29: 81-101.
1960. Luckermann, W.H. Increase of European Corn Borers following Soil Application of Large Amounts of dieldrin. *Journal of Economic Entomology* 53: 582-584.
- [C] 1960. Pickett, A.D. Effects of Disease and Insect Control Practices on Biological Balance in Apple Orchards. Pp. 201-208 in: Reitz, L.P. (Editor). *Biological and Chemical Control of Plant and Animal Pests*. AAAS, Publ. # 61 (See next entry).
1960. Reitz, L.P. (Editor). Biological and Chemical Control of Plant and Animal Pests. American Association for the Advancement of Science, Publication No. 61.
- [C] 1961. Brown, A.W.A. The Challenge of Insecticide Resistance. *Entomological Society of America, Bulletin* 7: 6-19.
- [C] 1961. Brown, A.W.A. Ecological Consequences of the Development of Resistance. [Reference not Ascertained]

1961. Jacobson, M. et. al. Insect Sex Attractants. I. The Isolation, Identification, and Synthesis of Sex Attractant of the Gypsy Moth. Journal, American Chemical Society 83: 4819-4824.
1961. LaBrecque, G.C. Studies with three alkylating agents as House-Fly Sterilants. Journal of Economic Entomology 54: 684-689.
1961. Steiner, L.F. et. al. The Role of Attractants in the Recent Mediterranean Fruit Fly Eradication Program in Florida. Journal of Economic Entomology 54: 30-35.
- [C] 1962. Pickett, A.D. Pesticides and the Biological Control of Arthropod Pests. World Review of Pest Control 1962: 19-25.
- [C] 1962. Beirne, B.P. Integration of Biological and Chemical Control. Desirable Attributes of Biotic Agents. Entomological Society of America, Bulletin 8: 189-191.
1962. Frings, H. & Frings, M. Pest Control with Sound. Part I. Possibilities with Invertebrates. Sound 1(6): 13-20.
1963. Anon. To Reduce Gnat Population. Chemical and Biological Control to be combined at Clear Lake, California. Agric. Chem. 18(9): 37, 189. (WR 112:6).
1963. Anon. New Approaches to Pest Control and Eradication. Advances in Chemistry No. 41. (American Chemical Society, 1155, 16th Street, N.W., Washington 6, D.C.) (Pesticide Progress (Ottawa) 2(1): 14-15).
- [C] 1963. Beirne, B.P. Biological Control of Insects. Pesticide Progress (Ottawa) 1(1): 24-27.
1963. Dutky, S.R. The Milky Diseases. Pp. 75-115 in: Steinhaus, E.A. (Editor). Insect Pathology: an Advanced Treatise., Vol. 2. New York: Academic Press.
1963. Jacobson, M. et. al. Isolation and Identification of the Sex Attractant of the American Cockroach. Science 139 (3549): 48-49.
- [C] 1963. Wright, R.H. Molecular Vibration and Insect Sex Attractants. Nature 198(4879): 455-459.
1964. Hill, L.D. Pest Control without Poisons. Braintree, Essex, England: Henry Doubleday Research Association.
1964. Jacobson, M. & Beroza, M. Insect Attractants. Scientific American 211(2): 20-27.
1964. Knipling, E.F. Opportunities for the Development of Specific Methods of Insect Control. Pp. 14-26 in: Nature, Man and Pesticides. Proceedings, Vol. 7, 16th International Congress of Zoology, Washington, 1963.
- [Additional Canadian references may be found under Canada (General) on pp. 3-4, Another important source is Kuenen (1961) listed on p.2]
1964. Kuenen, D.J. Man, Food, and Insects as an Ecological Problem. Pp. 5-13 In: Nature, Man and Pesticides. Vol. 7, Proceedings, 16th International Congress of Zoology, Washington, D.C., 1963.