

**An Annotated Bibliography of Field Studies Conducted on the Patuxent Wildlife  
Research Center: 1940-1996**

*Link to Species Index*

Adeduji K. 1979. A survey of white-tailed deer (*Odocoileus virginianus*) in Maryland for brucellosis leptospirosis, parainfluenza-3, bovine viral diarrhea, Infectious bovine rhinotracheitis, bluetongue and epizootic hemorrhagic disease. M.S. thesis, University of Maryland. viii + 66.

**Keyword:** White-tailed deer, *Odocoileus virginianus*, Diseases, Serology

**Note:** Sera tested by complement-fixation and immunodiffusing tests were negative or anticomplementary for the diseases.

Albers P. H. and M. B. Camardese. 1993. Effects of acidification on metal accumulation by aquatic plants and invertebrates. 1. Constructed wetlands. *Environmental Toxicology and Chemistry*. 12: 959-967.

**Keyword:** Water chemistry, Constructed wetlands, Metals, Aquatic plants, Aquatic Invertebrates

**Note:** Compared were concentrations of Al, Cd, Ca, Cu, Fe, Hg, Pb, Mg, Mn, Ni, P, and Zn in water, plants, aquatic insects of constructed wetlands at PWRC.

Albers P. H. and M. B. Camardese. 1993. Effects of acidification on metal accumulation by aquatic plants and invertebrates. 2. Wetlands, ponds and small lakes. *Environmental Toxicology and Chemistry*. 12: 969-976.

**Keyword:** Water Chemistry, Wetlands, Metals, Aquatic Plants , Aquatic Invertebrates

**Note:** Samples of water, plants, and aquatic insects were collected from wetlands and pond at PWRC.

Albers P. H. and R. M. Prouty. 1987. Survival of spotted salamander eggs in temporary woodland ponds of coastal Maryland. *Environmental Pollution* 46(1):45-61.

**Keyword:** *Ambystoma maculatum*, Spotted Salamander, Water Chemistry, Phytoplankton, Zooplankton, Survival

**Note:** Salamander reproduction was studied in ten bottomland ponds and water quality was examined in 20 bottomland ponds.

Albers P. H., L. Sileo, and B. M. Mulhern. 1986. Effects of environmental contaminants on snapping turtles of a tidal wetland. *Archives of Environmental Contamination and*

Toxicology 15(1):39-49.

**Keyword:** *Chelydra serpentina*, Snapping Turtle, Blood Chemistry, Metals, Polychlorinated biphenyls, chlorinated pesticides

**Note:** Control samples collected, growth studies conducted at PWRC.

Allison J.T. 1966. The Patuxent River report number 4. Physical, chemical and bacteriological water quality. Summer surveys 1964-1965-1966. State of Maryland, Department of Water Resources, Division of Water Quality investigations.

**Keyword:** Water Quality, Patuxent River

**Note:** Four stations at PWRC sampled in 1964, 1965, and 1966.

Anonymous. 1961. Patuxent Wildlife Research Center. U.S. Fish and Wildlife Service, Circular 107. 23 pp.

**Keyword:** Wildlife Management, Pest Control, History

**Note:** Description of programs and on-going research.

Anonymous. 1962. Indian backgrounds of the Patuxent Wildlife Research Center. U.S. Fish and Wildlife Service, Circular 138. 8 pp.

**Keyword:** Archaeology, Indian, History

**Note:** Popular account of archaeological history of the area.

Armstrong W. H. 1941. Some autopsy findings in fur animals: Summary of post-mortem examinations at Patuxent Research Refuge, Bowie, Maryland. American Fur Breeder 13(7):28-30.

**Keyword:** Mammals, Autopsy, Foxes, Minks, Chinchillas, Muskrats, Rabbits

**Note:** Some animals were probably from Patuxent lands-sources of animals not specified in text.

Belisle A. A. and D. M. Swineford. 1988. Simple, specific analysis of organophosphorus and carbamate pesticides in sediments using column extraction and gas chromatography. Environmental Toxicology and Chemistry 7:749-752.

**Keyword:** Organophosphates, Carbamates, Column Extraction, Gas Chromatography

**Note:** The methods was tested on the sediment collected from a constructed wetland at PWRC.

Beyer W. N. and E. J. Cromartie. 1987. A survey of Pb, Cu, Zn, Cd, Cr, As, and Se in earthworms and soil from diverse sites. *Environmental Monitoring and Assessment* 8(1):27-36.

**Keyword:** Earthworms, *Eisenoides*, Metals

**Note:** Four natural sites were selected on the Center.

Beyer W. N. and C. D. Gish. 1980. Persistence in earthworms and potential hazards to birds of soil applied DDT, dieldrin, and heptachlor. *Journal of Applied Ecology* 17(2):295-307.

**Keyword:** Earthworms, DDT, Dieldrin, *Heptachlor epoxide*, *Aporrectodea trapezoides*, *Aporrectodea turgida*, *Allolobophora chlorotica*, *Lumbricus terrestris*

**Note:** Heavy metals were applied in 1966 at the hay field of PWRC.

Beyer W. N., G. L. Hensler, and J. Moore. 1987. Relation of pH and other soil variables to concentrations of Pb, Cu, Zn, Cd, and Se in earthworms. *Pedobiologia* 30:167-172.

**Keyword:** Earthworm, Soil Chemistry, Metals

**Note:** Metal levels measured in naturally-occurring earthworms from treated soils on PWRC.

Beyer W. N. and T. E. Kaiser. 1984. Organochlorine pesticide residues in moths from the Baltimore, MD-Washington, DC area. *Environmental Monitoring and Assessment* 4(2):129-137.

**Keyword:** Moths, Organochlorine pesticides, Polychlorinated biphenyls

**Note:** One sample site on the Center.

Beyer W. N. and J. Moore. 1980. Lead residues in eastern tent caterpillars (*Malacosoma americanum*) and their host plant (*Prunus serotina*) close to a major highway. *Environmental Entomology* 9(1):10-12.

**Keyword:** Insects, Eastern Tent Caterpillars, *Malacosoma americanum*, Lead

**Note:** The sample from the center was used as a control.

Beyer W. N., J. W. Spann, Sileo. L., and J. C. Franson. 1988. Lead poisoning in six captive avian species. *Archives of Environmental Contamination and Toxicology* 17: 121-130.

**Keyword:** Lead, Blood Chemistry, Histopathology, Screen Owl

**Note:** Screen-owls were collected from the wild on the Center.

Birdsall C. W., C. E. Grue, and A. Anderson. 1986. Lead concentrations in bullfrog *Rana catesbeiana* and green frog *R. clamitans* tadpoles inhabiting highway drainages. *Environmental Pollution (Series A)* 40(3):233-247.

**Keyword:** Bullfrog, *Rana catesbeiana*, green frog, *Rana clamitans*, Tadpoles, Lead, Sediments

**Note:** Collections made at five sites on PWRC to assess effects of automotive pollution.

Bruce J. I., L. M. Llewellyn, and E. H. Sadun. 1961. Susceptibility of wild mammals to infection by *Schistosoma mansoni*. *Journal of Parasitology* 47(5):752-756.

**Keyword:** *Schistosoma mansoni*, Parasites, Mammals

**Note:** Mammals trapped in Baltimore-Washington area (presumably including PWRC) examined from natural occurrence of the parasite and tested for susceptibility.

Buehler D. A., J. D. Fraser, M. R. Fuller, L. S. McAllister, and J. K. D. Seegar. 1995. Captive and field-tested radio transmitter attachments for bald eagles. *Journal of Field Ornithology* 66(2):173-180.

**Keyword:** Radio Transmitter, Attachment Method, Bald Eagle, *Haliaeetus leucocephalus*

**Note:** Two attachment methods were tested on twelve permanently captive bald eagles housed at PWRC.

Byrne R. J., F. M. Hetrick, J. E. Scanlon, J. W. Hastings, and L. N. Locke. 1961. Observations on eastern equine encephalitis in Maryland in 1959. *Journal of the American Veterinary Medical Association* 139(6):661-664.

**Keyword:** Eastern Equine Encephalitis, House Sparrows, *Passer domesticus*

**Note:** Eastern equine encephalitis reported in House Sparrows (*Passer domesticus*) collected at PWRC.

Bystrak D. 1985. Patuxent Wildlife Research Center. Pages 56-57 in C.S. Robbins, editor. *Atlantic Flyway Review: Region V*. *North American Bird Bander* 10:53-60.

**Keyword :** Bird banding, Migratory Bird, Mist Netting

**Note:** Summarizes banding conducted in the power line rights-of-way that traverses PWRC.

Callahan J. M. 1986. Ecology and physiology of gender expression in *Arisaema triphyllum*, Jack-in-the-pulpit. M.S. thesis, University of Maryland. vii + 84 pp.

**Keyword:** *Arisaema triphyllum*, Jack-in-the-pulpit, Physiology, Environment, Sex Switching

**Note:** Field studies on the demography, physiology, and microhabitat variation of *Arisaema triphyllum* were conducted at PWRC.

Carpenter J. W., F. J. Dein, and G. G. Clark. 1987. An outbreak of eastern equine encephalitis virus in captive whooping cranes. Pages 123-127 in J.C. Lewis, editor. Proceedings of the 1985 Crane Workshop. Platte River Whooping Crane Maintenance Trust and U.S. Fish and Wildlife Service, Grand Island, NE. viii, 415 pp.

**Keyword :** Eastern Equine Encephalitis, Disease Outbreak, Whooping Cranes

**Note:** The virus and its mosquito vector discovered at PWRC.

Carpenter J. W., D. M. Watts, C. L. Crabbs, G. G. Clark, T. W. Scott, D. Docherty, B. B. Pagac, J. M. Dorothy, J. G. Olson, and F. J. Dein. 1988. Prevention of eastern equine encephalitis virus in captive cranes. The Proceedings of 1988 North American Crane Workshop.

**Keyword:** Eastern equine encephalitis, Vector Control, *Culiseta melanura*, Vaccination

**Note:** A subsequent research and surveillance procedures initiated to prevent EEE viral infections after 1984 outbreak at PWRC.

Carroll J. F. and J. J. Grasela. 1986. Occurrence of adult American dog ticks, *Dermacentor variabilis* (Say) around small mammal traps and vertebrate carcasses. Proceedings of the Entomological Society of Washington 88:77-82.

**Keyword:** American Dog Ticks, *Dermacentor variabilis*, *Microtus*

**Note:** Done in conjunction with *Microtus* study (see Nichols et al. 1984).

Carroll J. F. and J. D. Nichols. 1986. Parasitization of meadow voles, *Microtus pennsylvanicus* (ORD), by American dog ticks, *Dermacentor variabilis* (SAY), and adult tick movement during high host density. Journal of Entomological Science 21(2):102-113.

**Keyword:** Meadow Voles, *Microtus pennsylvanicus*, American Dog Ticks, *Dermacentor variabilis*, Tick Burdens, Populations, Movement

**Note:** Study conducted in conjunction with a small mammal study in an open field habitat at PWRC.

Carroll J. F., E. Russek-Cohen, J. D. Nichols, and J. E. Hines. 1991. Population Dynamics of American Dog Ticks (Acari: Ixodidae) along park trails. Environmental Entomology 20(3): 922-929 .

**Keyword:** Arachnida, American Dog Ticks, *Dermacentor variabilis*, Cloth drag, Populations

**Note:** PWRC served as one sampling site.

Carroll J. F. and E. T. Schmidtman. 1996. Dispersal of blacklegged tick (Acari: Ixodidae) nymphs and adults at the woods-pasture interface. *Journal of Medical Entomology* 33(4):554-448.

**Keyword:** *Ixodes scapularis*, Blacklegged Tick, Capture-Recapture Studies, Active Dispersal, Host Exclusion

**Note:** Part of *Ixodes scapularis* nymphs and adults used for the study were collected at PWRC.

Chaffee E. F., E. H. Fife, Jr., and J. F. Kent. 1956. Diagnosis of *Trypanosoma cruzi* infection by complement fixation. *American Journal of Tropical Medicine and Hygiene* 5:763-771.

**Keyword:** *Trypanosoma cruzi*, Antigen, Serodiagnosis, Raccoon, *Procyon lotor*

**Note:** Parasite isolated from a Patuxent raccoon (*Procyon lotor*).

Chu D. S., B. A. Hoover, M. R. Fuller, and P. H. Geissler. 1988. Telemetry location error in a forested habitat. *Biotelemetry*.

**Keyword:** Telemetry, Radiotelemetry Triangulation

**Note:** The magnitude and cause of telemetry location errors were tested in the bottomland forest at PWRC.

Clark D. R., Jr. 1992. Organochlorines and heavy metals in 17-year cicadas pose on apparent dietary threat to birds. *Environmental Monitoring and Assessment* 20:47-54.

**Keyword:** Cicadas, *Magicicada*, Organochlorines, Metals

**Note:** The cicadas population at Duval Bridge site of PWRC was assessed at the contamination of DDT sprayed in 1945-1949.

Clark D. R., Jr. and B. A. Rattner. 1987. Orthene toxicity to little brown bats (*Myotis lucifugus*): Acetylcholinesterase inhibition, coordination loss, and mortality. *Environmental Toxicology and Chemistry* 6(9):705-708.

**Keyword:** Little Brown Bats, *Myotis lucifugus*, Orthene, Laboratory mouse, Coordination loss, Mortality, Cholinesterase

**Note:** Bats were collected in the wild on the Center.

Clark D. R., C. A. Moulton, J. E. Hines, and D. J. Hoffman. 1996. Small mammal populations in Maryland meadows during four years of herbicide (Brominal) applications. *Environmental Toxicology and Chemistry* 15(9):1544-1550.

**Keyword:** Brominal, herbicide, Meadow voles, *Microtus pennsylvanicus*, Opaque corneas, Small Mammals

**Note:** Brominal was applied at the rate 1.57 L/ha on the meadows of PWRC.

Clark G. M. 1958. One new and one previously unreported species of nasal mite (Acarina, Speleognathidae) from N.A. birds. *Proceedings of the Helminthological Society of Washington* 25(2):78-86.

**Keyword:** *Boydaia colini*, *Speleognathus womersleyi*, Morphology, Taxonomy

**Note:** Type specimen collected from the PWRC.

Clark G. M. 1960. Three new nasal mites (Acarina: Speleognathidae) from the gray squirrel, the common grackle, and the meadowlark, in the United States. *Proceedings of the Helminthological Society of Washington* 27(1):103-110.

**Keyword:** Nasal Mites, Acarina, *Speleognathidae sciuri*, *Boydaia sturnellae*, *Boydaia quisicali*, Morphology, Taxonomy

**Note:** Type specimen collected from the PWRC.

Clark G. M. and L. N. Locke. 1964. Multiple parasitism in fledgling birds: Case reports. *Avian Diseases* 8(2):315-316.

**Keyword:** Cardinal, *Richmondia cardinalis*, *Plasmodium relictum*, Histology, Towhee, *Pipilo erythrophthalmus*, *Plasmodium elongatum*, Common Grackle, *Quiscalus quiscula*, *Haemoproteus*, *Trypanosoma*, coccidia

**Note:** Two cases from PWRC.

Clark G. M., L. N. Locke, and F. C. Schmid. 1960. Contact dermatitis incurred from cottontail stomach contents. *Journal of Wildlife Management* 24(1):94.

**Keyword:** Dermatitis, Cottontail Rabbits, *Sylvilagus floridanus mallurus*, Winter Diet

**Note:** Effect apparently resulted from rabbits on PWRC consuming poison ivy (*Toxicodendron radicans*).

Clifford C. M., D. E. Sonenshine, E. L. Atwood, C. S. Robbins, and L. E. Hughes. 1969. Tests on ticks from wild birds collected in the eastern United States for rickettsiae and viruses. *American Journal of Tropical Medicine and Hygiene* 18(6):1057-1061.

**Keyword:** Ticks, Birds, *Ixodes dentatus*, *Ixodes brunneus*, *Haemaphysalis leporispalustris*, *Rickettsia rickettsii*

**Note:** PWRC was one collecting station.

Coon R. A., J. D. Nichols, and H. F. Percival. 1981. Importance of structural stability to success of mourning dove nests. *Auk* 98(2):389-391.

**Keyword:** Mourning Dove, *Zenaida macroura*, Nesting Success

**Note:** Nesting study conducted at PWRC.

Dale F. H. 1956. The farmer and wildlife management. *Soil Conservation* 21(8):186-189.

**Keyword:** Farming, Wildlife Management, Soil Conservation

**Note:** A preliminary report on the farm wildlife program at PWRC.

Dawson D. K., L. J. Darr, and C. S. Robbins. 1993. Predicting the distribution of breeding forest birds in a fragmented landscape. *Transactions of the North American Wildlife and Natural Resource Conference* 58:35-43.

**Keyword:** Breeding Birds, Forest Management, Habitat, Fragmentation, Distribution

**Note:** Patuxent bottomland forests were served as sampling sites among the total 224 forested area in Prince George's County, Maryland.

Dawson D. K., D. R. Smith, and C. S. Robbins. 1995. Point count length and detection of forest neotropical migrant birds. Pages 35-43. *In* C.J. Raiph, J.R. Sauer, and S. Droege, editors. *Monitoring bird populations by point counts*. U.S. Forest Service, Pacific Southwest Forest Experiment Station, General Technical Report PSW-149. iv, 181 pp.

**Keyword:** Point Count, Abundance, Breeding Bird Survey

**Note:** The point count data were collected as part of a study on the effects of forest area on bird distribution (Robbins et al. 1989).

Dein F. J., J. W. Carpenter, G. G. Clark, R. J. Montali, C. L. Crabbs, T. F. Tsai, and D. E. Docherty. 1986. Mortality of captive whooping cranes caused by eastern equine encephalitis virus. *Journal of the American Veterinary Medical Association* 189(9):1006-1010.

**Keyword:** Eastern Equine Encephalitis, Serodiagnosis, *Culiseta melanura*, Whooping cranes, *Grus americana*, Antibody

**Note:** Presence of the virus and one of its vectors, the mosquito *Culiseta melanura*, reported at PWRC.



DeWitt J. B. and J. V. Derby. 1955. Changes in nutritive value of browse plants following forest fires. *Journal of Wildlife Management* 19(1):65-70.

**Keyword:** *Acer rubrum*, Red Maple, *Quercus alba*, White Oak, *Cornus Florida*, Flowering Dogwood, *Smilax rotundifolia*, Roundleaf Greenbrier, Fire, Nutritional Quality  
**Note:** A controlled forest fire in 1947 and uncontrolled burning in 1950 on an area of the Beltsville Agricultural Research Center adjacent to PWRC.

Dillon J. F. 1955. Studies on the growth of the fish population of Snowden Pond, Patuxent Research Refuge, Laurel, Maryland. M.S. thesis, University of Maryland. x + 58 pp.

**Keyword:** Population, Growth, Fishes, Water Quality, Impoundment  
**Note:** Studies conducted 6 years after completion of the pond.

Donnelly T. W. and K. J. Tennessen. 1994. *Macromia illinoiensis* and *georgina*: a study of their variation and apparent subspecific relationship (Odonata: Corduliidae). *Bulletin of American Odonatology* 2(3):27-61.

**Keyword:** Odonata, Morphology, Taxonomy, *Macromia illinoiensis*, *Macromia georgina*  
**Note:** Based in part from specimens collected at PWRC.

Dowell B. A. D. D. K. R. C. S. (In press). Impacts of cowbird parasitism on wood thrushes and other neotropical migrants in suburban Maryland woodlots. *Proceedings of 1993 North American Research Workshop on the Ecology and Management of Cowbirds*.

**Keyword:** Parasitism, Cow Bird, Wood thrushes, *Hylocichla mustelina*  
**Note:** The nest of all breeding bird species and the vegetation within 5 meters in radius of the nest site were surveyed .

Drummond R. O. 1957. Ectoparasitic Acarina from small mammals of the Patuxent Refuge, Bowie, Maryland. *Journal of parasitology* 43: 50.

**Keyword:** Mammals, Acarina, Mites, Ticks  
**Note:** Mites and ticks occurring on nine species of mammals from the Patuxent Wildlife Research Center are reported.

Drummond R. O. 1957. Observations on fluctuations of Acarine populations from nests of *Peromyscus leucopus*. *Ecological Monographs* 27(2): 137-152.

**Keyword:** *Peromyscus leucopus*, Acarine, Population Fluctuations, Wood mice, Mites

- Note:** Mites and ticks parasitizing *P. leucopus* attracted to artificial nest boxes studied.
- Fankhauser D. P. 1964. Renesting and second nesting of individually marked red-winged blackbirds. *Bird-banding* 35:119-121.
- Keyword:** Red-winged Blackbird, *Agelaius phoeniceus*, Nesting  
**Note:** The study was following the intensive search for the nests of red-winged blackbird in 1961.
- Fankhauser D. P. and R. T. Mitchell. 1964. Changes in land use and breeding red-winged blackbird populations at Patuxent Wildlife Research Center. *Atlantic Naturalist* 19(2):99-100.
- Keyword:** Red-winged Blackbird, *Agelaius phoeniceus*, Populations, Land Use  
**Note:** Population changes related to wetland creation and farm wildlife activities.
- Farrel B. 1986. Phylogenetic studies of insect/plant interactions: *Tetraopes* (Cerambycidae) and *Asclepias* (Asclepiadaceae). Ph.D. thesis, University of Maryland. vi + 94.
- Keyword:** Insect-plant interaction, *Tetraopes*, Milkweed beetle, *Asclepias*, Milkweed, Coevolution  
**Note:** PWRC was one collecting station for *Tetraopes melanurus*.
- Fauth P. T. 1988. Ectoparasitism and the role of green nesting material in the European starling. M.S. thesis, University of Maryland.
- Keyword:** Green Nesting Material, *Sturnus vulgaris*, Ectoparasitism, Post-fledging Survival, Nest protection hypothesis  
**Note:** Nest manipulations on green nesting material and ectoparasites of European starlings (*Sturnus vulgaris*) were used to test hypotheses of green nesting material effects on nesting success and ectoparasite infection.
- Fauth P. T., D. G. Kremenetz, and J. F. Hines. 1991. Ectoparasitism and the role of green nesting material in the European starling. *Oecologia* 88:22-29.
- Keyword:** Green nesting material, *Sturnus vulgaris*, Ectoparasitism, Post-fledging Survival, Nest protection hypothesis  
**Note:** Based on 1988 thesis.
- Federoff N. E., W. J. Jakob, and W. C. Bauer. 1994. Female feral dog and two pups kill deer

fawn at the Patuxent Wildlife Research Center, Laurel, Maryland. Maryland Naturalist 38(1/2):1-2.

**Keyword:** *Canis lupus familiaris*, Predation, White-tailed Deer, *Odocoileus virginianus*, Behavior

**Note:** The adult dog (*Canis lupus familiaris*) attacking a deer fawn was reported in an open field of PWRC.

Firth W. R. 1980. Patuxent Wildlife Research Center Master Plan. Sasaki Associates, Watertown, Massachusetts. 37 pp., maps, appendices.

**Keyword:** Management, Land Use

**Note:** Land use categories discussed.

Fleming W. J., C. E. Grue, C. A. Schuler, and C. M. Bunck. 1987. Effects of oral doses of fluoride on nestling European starlings. Archives of Environmental Contamination and Toxicology 16(4):483-489.

**Keyword:** European starlings, *Sturnus vulgaris*, Fluoride, Dosing Experiments, Histology

**Note:** Experiments conducted on wild starlings attracted to nest boxes.

Geissler P. H., D. D. Dolton, R. A. Coon, H. F. Percival, R. Field, D. W. Hayne, L. D. Soileau, R. R. George, J. H. Dunks, and S. D. Bunnell. 1982. Mourning dove nesting: Seasonal patterns and effects of September hunting. U.S. Fish and Wildlife Service, Patuxent Wildlife Research Center, Section of Migratory Game Birds. various pagings.

**Keyword:** Mourning Dove, *Zenaida macroura*, Nesting, Hunting, Survival

**Note:** PWRC was one study site.

Geissler P. H., D. D. Dolton, R. Field, R. A. Coon, H. F. Percival, D. W. Hayne, L. D. Soileau, R. R. George, J. H. Dunks, and S. D. Bunnell. 1987. Mourning dove nesting: Seasonal patterns and effects of September hunting. U.S. Fish and Wildlife Service, Resource Publication 168. iv, 33 pp.

**Keyword:** *Zenaida macroura*, Survival, Production, Wildlife Management

**Note:** A portion of the field research in this wide ranging study was conducted on PWRC.

Gish C. D. and R. E. Christensen. 1973. Cadmium, nickel, lead, and zinc in earthworms from roadside soil. Environmental Science and Technology 7(11):1060-1062.

**Keyword:** Metals, Earthworms, *Lumbricus terrestris*, *Allolobophora*, Soil

**Note:** Control samples collected at PWRC.

Gotte S. W. 1988. Nest site selection in the snapping turtle, mud turtle, and painted turtle. M.S. thesis, George Mason University. vii + 135 pp.

Gotte S. W. 1992. Testudines: *Chrysemys picta picta* (Eastern painted turtle). Predation. Herpetological Review 23(3):80.

**Keyword:** *Chrysemys picta picta*, Eastern Painted Turtle, Predation, Invertebrates

**Note:** field observations on the predation of eastern painted turtles by large giant water bugs (Hemiptera: Belostomatidae) were reported in a shallow pond at PWRC.

Grue C. E. 1982. Response of common grackles to dietary concentrations of four organophosphate pesticides. Archives of Environmental Contamination and Toxicology 11: 617-626.

**Keyword:** Common grackles, *Quiscalus quiscula*, Organophosphate, Captivity, Toxicology

**Note:** Common grackles were captured in the wild from PWRC.

Grue C. E. and C. C. Hunter. 1984. Brain cholinesterase activity in fledgling starlings: Implications for monitoring exposure of songbirds to ChE inhibitors. Bulletin of Environmental Contamination and Toxicology 32(2):282-289.

**Keyword:** European Starlings, *Sturnus vulgaris*, Cholinesterase, Dosing experiment

**Note :** Free-living nestlings taken from nest boxes.

Grue C. E., G. V. N. Powell, and N. L. Gladson. 1981. Brain cholinesterase (ChE) activity in nestling starlings: Implications for monitoring exposure of nestling songbirds to ChE inhibitors. Bulletin of Environmental Contamination and Toxicology 26(4):544-547.

**Keyword:** Starling, *Sturnus vulgaris*, Cholinesterase, Nestling, Age

**Note:** Free-living nestlings taken from nest boxes.

Grue C. E., G. V. N. Powell, and C. H. Gorsuch. 1982. Assessing effects of organophosphates on songbirds: Comparison of a captive and a free-living population. Journal of Wildlife Management 46(3):766-768.

**Keyword:** Starlings, *Sturnus vulgaris*, Organophosphates, Cholinesterase, Dosing experiment

**Note:** Enzyme activities in wild and captive animals compared.

Grue C. E., G. V. N. Powell, and M. J. McChesney. 1982. Care of nestlings by wild female starlings exposed to an organophosphate pesticide. *Journal of Applied Ecology* 19:327-335.

**Keyword:** European starlings, *Sturnus vulgaris*, Organophosphate, Dosing experiment, Cholinesterase

**Note:** Observation made on wild European starlings attracted to nest boxes.

Grue C. E. and B. K. Shipley. 1984. Sensitivity of nestling and adult starlings to dicotophos, an organophosphate pesticide. *Environmental Research* 35(2):454-465.

**Keyword:** European starlings, *Sturnus vulgaris*, Dicrotophos, Organophosphate, Cholinesterase, Dosing experiment

**Note:** Free-living European starlings attracted to nest boxes.

Hall L. C. and F. B. McGilvrey. 1971. Nesting by a yearling Canada goose. *Journal of Wildlife Management* 35(4):835-836.

**Keyword:** Canada Goose, *Branta canadensis interior*, Banding, Reproduction

**Note:** Single record of nesting by a yearling, and frequency of nesting by 2- and 3 years old reported.

Hall R. J. 1988. An annotated bibliography of field studies conducted on the Patuxent Wildlife Research Center: 1940-1987. Fish and Wildlife Service, U.S. Department of the Interior, Washington, D.C. Biological Report 88(2):1-16.

**Keyword:** Bibliography, Natural History

**Note:** A total of 228 papers published between 1940-1987 were listed.

Hall R. J. 1990. Accumulation, metabolism and toxicity of parathion in tadpoles. *Bulletin of Environmental Contamination and Toxicology* 44: 629-635.

**Keyword:** Tadpole, Green Frog, *Rana catesbeiana*, Parathion, Pesticide, Toxicity

**Note:** Tadpoles were collected from the field at PWRC.

Hall R. J. and B. M. Mulhern. 1984. Are anuran amphibians heavy metal accumulators? Pages 123-133 in R.A. Seigal, et al., editors. *Vertebrate Ecology and Systematics--A Tribute to Henry S. Fitch*. University of Kansas, Museum of Natural History, Special Publication

No. 10, Lawrence, KS. v, 278 pp.

**Keyword:** Fish, Frog, *Rana*, *Bufo*, Metals, Wetland

**Note:** Metal levels in fish and amphibians from PWRC reported.

Hallgren-Scaffidi L. 1986. Habitat, home range, and population study of the eastern box turtle (*Terrapene c. carolina*). M.S. thesis, University of Maryland. iv + 82 pp.

**Keyword:** Eastern Box Turtle, *Terrapene c. carolina*, Behavior, Home Range, Habitat, Population Fluctuation, Capture Recapture Studies

**Note:** A follow-up on studies by L.F. Stickel (1950, 1978).

Henny C. J., R. C. Schmid, E. M. Martin, and L. L. Hood. 1973. Territorial behavior, pesticides, and the population ecology of red-shouldered hawks in central Maryland, 1943-1971. *Ecology* 54(3):545-554.

**Keyword:** Red-shouldered Hawk, *Buteo lineatus*, Population, Nesting success, Pesticide

**Note:** Study conducted in PWRC bottomland forests and adjoining areas.

Hensler G. L. 1985. Estimation and comparison of functions of daily nest survival probabilities using the Mayfield method. Pages 289-301 in B.J.T. Morgan and P.M. North, editors. *Statistics in Ornithology*. Springer-Verlag, New York, New York. 418 pp.

**Keyword:** Reproductive Success, Nesting Success, Mayfield Method

**Note:** Uses examples based on Patuxent Mourning Dove (*Zenaida macroura*) study to illustrate methodological comparisons.

Hensler G. L., J. D. Nichols, R. A. Coon, H. F. Percival, and J. E. Hines. 1980. Estimating nesting success: A model, estimators, and a field example. *Bulletin of the Ecological Society of America* 61(2):109 (abstract).

**Keyword:** Model, Nesting Success

**Note:** Data on Patuxent Mourning Dove studies utilized.

Herman C. M. 1954. *Haemoproteus* infections in waterfowl. *Proceedings of the Helminthological Society of Washington* 21(1):37-42.

**Keyword:** Parasites, *Haemoproteus*, Wood Ducks, *Aix sponsa*

**Note:** Parasite found to occur naturally in Wood Ducks (*Aix sponsa*) at PWRC.

Herman C. M. 1955. Further observation on occurrence of *Hepatozoon* in gray squirrels (*Sciurus carolinensis*). Journal of Parasitology (41, Section 2):17 (Abstract).

**Keyword:** Gray Squirrel, *Sciurus carolinensis*, *Hepatozoon*, Hematozoa, Parasite

**Note:** Gray squirrels trapped in Baltimore-Washington area (presumably including PWRC) were examined for natural occurrence of the parasite.

Herman C. M. 1962. The role of birds in the epizootiology of eastern encephalitis. Auk 79(1):99-103.

**Keyword:** Epizootiology, Eastern Equine Encephalitis, Antibody

**Note:** Five bird species at PWRC to carry antibodies.

Herman C. M., P. M. Bauman, and R. T. Haberman. 1957. The prevalence of *Eurytrema procyonic* Denton (Trematoda Dicrocoeliidae) in some mammals from Maryland. Journal of parasitology 43(1):113-114.

**Keyword:** *Eurytrema procyonic*, Trematoda, Dicrocoeliidae, Raccoon, *Procyon lotor*, Parasites, Histopathology

**Note:** 27 raccoons were collected from the field at PWRC.

Herman C. M., L. Kilham, and O. Warbach. 1956. Incidence of Shope's rabbit fibroma in cottontails at the Patuxent Research Refuge. Journal of Wildlife Management 20(1):85-89.

**Keyword:** Cottontail Rabbit, *Sylvilagus floridanus*, Shope's Rabbit Fibroma, Serum Neutralization Test, Tumor, Virus

**Note:** Epizootic reported.

Herman C. M., J. O. Knisley, and G. D. Knipling. 1971. Blood parasites of wood ducks. Journal of Wildlife Management 35(1):119-122.

**Keyword:** Wood Ducks, *Aix sponsa*, *Haemoproteus*, *Leucocytozoon*, *Plasmodium*, Trypanosome, Parasites, Blood

**Note:** Seven ducks from PWRC examined.

Herman C. M. and D. L. Price. 1955. The occurrence of hepatozoon in the gray squirrel (*Sciurus carolinensis*). Journal of Protozoology 2(2):48-51.

**Keyword:** *Hepatozoon*, Gray Squirrel, *Sciurus carolinensis*, Parasites, Blood

**Note:** PWRC served as one collection site.

Herman C. M. and D. L. Price. 1965. Epizootiologic studies on filaroids of the raccoon. *Journal of Wildlife Management* 29(4):694-699.

**Keyword:** Epizootiology, Parasite, Raccoon, *Procyon lotor*, Filarioid, Necropsy

**Note:** Raccoons trapped in the field at PWRC.

Hill E. F. and H. C. Murray. 1987. Seasonal variation in diagnostic enzymes and biochemical constituents of captive northern bobwhites and passerines. *Comparative Biochemistry and Physiology* 87B(4):933-940.

**Keyword:** Northern Bobwhite, European Starling, Enzyme, Biochemistry

**Note:** Normal enzyme levels reported in birds captured at PWRC.

Hitchcock J. C. 1967. The age composition of a natural population of *Anopheles quadrimaculatus* Say, at the Patuxent Wildlife Research Center, Maryland. Ph.D. thesis, Johns Hopkins University.

**Keyword:** Mosquitoes, *Anopheles quadrimaculatus*, Age, Population, Mortality

**Note:** The life history of *Anopheles quadrimaculatus* was examined at PWRC.

Hoffmann C. H., H. K. Townes, R. I. Sailer, and H. H. Swift. 1946. Field studies on the effect of DDT on aquatic insects. U.S. Bureau of Entomology and Plant Quarantine E-702. 20 pp.

**Keyword:** DDT, Aquatic Insects, Reproduction, Toxicology

**Note:** A preliminary report on the studies later published as Hoffman et al. (1949).

Hoffmann C. H., H. K. Townes, H. H. Swift, and R. L. Sailer. 1949. Field studies on the effects of airplane applications of DDT on forest invertebrates. *Ecological Monographs* 19: 1-46.

**Keyword:** Insects, DDT, Toxicology, Population, Taxonomy

**Note:** Reports effects on insect fauna of DDT applied to experimental areas in PWRC.

Hotchkiss N. 1940. Flora of the Patuxent Research Refuge, Maryland. U.S. Department of Interior, Bureau of Biological Survey, Wildlife Leaflet BS-154. 34pp.

**Keyword:** Vegetation, Taxonomy

**Note:** A preliminary report later expanded in Hotchkiss and Stewart.

Hotchkiss N. and R. E. Stewart. 1947. Vegetation of the Patuxent Research Refuge, Maryland. *American Midland Naturalist* 38(1):1-75.



**Keyword:** Vegetation, Community, Taxonomy

**Note:** Description of plant communities and taxonomic list of plants.

Jacobs L., A. M. Stanley, and C. M. Herman. 1962. Prevalence of *Toxoplasma* antibodies in rabbits, squirrels, and raccoons collected in and near the Patuxent Wildlife Research Center. *Journal of Parasitology* 48(4):550.

**Keyword:** Parasites, Cottontail Rabbit, *Sylvilagus floridanus*, Raccoon, *Procyon lotor*, Squirrel, *Sciurus carolinensis*, Antibody

**Note:** Test results reported; some animals positive for antibodies.

Jett D. A. 1983. Effects of the insecticide, orthene, on unconfined populations of the meadow vole (*Microtus pennsylvanicus*). I. Capture/recapture procedures; II. Residues and cholinesterase inhibition. M.S. thesis, University of Maryland. viii, 83 pp.

**Keyword:** Pesticide, Orthene, Meadow Vole, *Microtus pennsylvanicus*, Population, Cholinesterase, Capture Recapture Studies

**Note:** The effects of pre- and post-insecticide treatment on meadow voles population were examined at PWRC.

Jett D. A. 1986. Cholinesterase inhibition in meadow voles *Microtus pennsylvanicus* following field applications of Orthene. *Environmental Toxicology and Chemistry* 5(3):255-259.

**Keyword:** Pesticide, Meadow Vole, *Microtus pennsylvanicus*, Orthene, Cholinesterase, Capture Recapture Studies

**Note:** Based on 1983 thesis.

Jett D. A. and J. D. Nichols. 1987. Density fluctuations in a meadow vole population at the Patuxent Wildlife Research Center. *Maryland Naturalist* 31(2): 41-43.

**Keyword:** Meadow Vole, *Microtus pennsylvanicus*, Population Fluctuations

**Note:** Experiments conducted on natural populations in an open field habitat at PWRC.

Jett D. A., J. D. Nichols, and J. E. Hines. 1986. Effect of orthene on an unconfined population of the meadow vole (*Microtus pennsylvanicus*). *Canadian Journal of Zoology* 64(1):243-250.

**Keyword:** Orthoene, Meadow Vole, *Microtus pennsylvanicus*, Population, Survival, Reproduction, Capture Recapture Studies

**Note:** Based on 1983 thesis.

Jones L. 1976. Field data on *Heterodon p. platyrhinos* in Prince Georges County, Maryland. Bulletin Maryland Herpetological Society 12: 29-32.

**Keyword:** Eastern Hognose Snake, *Heterodon p. platyrhinos*, Behavior, Morphology, Autopsy

**Note:** Study conducted on Patuxent Wildlife Research Center. Location erroneously reported to discourage collectors .

Jones L. 1976. A large brood for a Maryland *Storeria dekayi dekayi*. Bulletin Maryland Herpetological Society 12: 102.

**Keyword:** *Storeria dekayi dekayi*, Reproduction

**Note:** Snake collected on PWRC.

Karr J. R., J. D. Nicholes, M. K. Klimkiewicz, and J. D. Brawn. 1990. Survival rates of birds of tropical and temperate forests: will the dogma survive? American Naturalist 136(3): 277-291.

**Keyword:** Demography, Survival Rates, Banding, Capture Recapture Studies, Passerines, Woodpecker

**Note:** PWRC served as one sampling site.

Kieber R. 1987. The photochemistry of hydrogen peroxide and chromium in natural waters. Ph.D. thesis, University of Maryland. iv + 171 pp.

**Keyword:** Photochemistry, Hydrogen peroxide, Chromium, Water

**Note:** PWRC served as one sampling site.

Kieber R. J. and G. R. Helz. 1995. Temporal and seasonal variation of hydrogen peroxide levels in estuarine waters. Estuarine, Coastal and Shelf Science 40:495-503.

**Keyword:** Hydrogen Peroxide, Estuarine Chemistry, Photochemistry, Natural Water Chemistry, Peroxide Seasonality

**Note:** PWRC served as one sampling site.

Kilham L., R. T. Habermann, and C. M. Herman. 1956. Jaundice and bilirubineamia as manifestations of canine distemper in raccoons and ferrets. American Journal of Veterinary Research 17(62):144-148.

**Keyword:** Raccoon, *Procyon lotor*, Ferret, Jaundice, Bilirubinemia, Canine Distemper Virus, Serology

**Note:** PWRC serves as one sampling site for raccoons.

Kilham L. and C. M. Herman. 1954. Isolation of an agent causing bilirubineamia and jaundice in raccoons. *Proceedings of the Society for Experimental Biology and Medicine* 85(2):272-275.

**Keyword:** Raccoon, *Procyon lotor*, Bilirubinemia, Jaundice, Pathohistology

**Note:** Raccoons used were presumably from PWRC.

Klimkiewicz M. K. and P. D. Jung. 1977. A new banding technique for nesting adult purple martins. *North American Bird Bander* 2: 3-6.

**Keyword:** Purple Martin, *Progne subis*, Banding, TRIO, SEARS

**Note:** Gives banding results for Patuxent colonies of Purple Martins.

Knisley J. O. and C. M. Herman. 1967. *Haemoproteus*, a blood parasite, in domestic pigeons and mourning doves in Maryland. *Chesapeake Science* 8(3):200-205.

**Keyword:** Mourning Dove, *Zenaidura macroura carolinensis*, Domestic Pigeon, *Columba livia*, *Haemoproteus*, Parasites

**Note:** Mourning doves collected on the PWRC.

Kocan R. M. 1968. Probable origin of ciliates found in oral swabbing of doves and pigeons. *Journal of Parasitology* 54(5):1033.

**Keyword:** Mourning Dove, *Zenaidura macroura*, Domestic Pigeon, *Columba livia*, Ciliates, Parasites

**Note:** Doves from PWRC.

Kocan R. M. and H. F. Hasenclever. 1972. Normal yeast flora of the upper digestive tract of some wild columbids. *Journal of Wildlife Diseases* 8:365-368.

**Keyword:** Columbids, Yeast, Digestive Tract, Candidiasis

**Note:** Some mourning doves were trapped at PWRC.

Kocan R. M. and L. N. Locke. 1974. *Salmonella typhimurium* from a Maryland mourning dove. *Condor* 76(3):349.

**Keyword:** Mourning Dove, *Zenaidura macroura*, *Salmonella typhimurium*, Pathohistology

**Note:** Mourning dove were trapped from PWRC.

Krementz D. G., J. D. Nichols, and J. E. Hines. 1989. Postfledging survival of European starlings. *Ecology* 70(3): 646-655.

**Keyword:** European Starling, *Sturnus vulgaris*, Survival, Jolly-Seber Model, Capture Recapture Studies, Nestling Mass, Fledge Date

**Note:** European starlings were attracted to nest boxes at PWRC.

LaBuy J. 1968. Biological survey of the upper and middle Patuxent River and some of its tributaries, from the Maryland Route 97 bridge near Roxbury Mills to the Maryland Route 4 bridge near Wayson's Corner, Maryland. Chesapeake Bay drainage basin. CB-SRBP Working Document No. 29. Federal Water Pollution Control Administration, Middle Atlantic Region. 49 pp.

**Keyword:** Water Quality, Vertebrates, Patuxent River

**Note:** PWRC served as one sampling site. Low richness of benthic macroinvertebrates at Duval Bridge was attributed to low dissolved oxygen and unstable bottom material.

Larcher S. F. and D. H. Wise. 1985. Experimental studies of the interactions between a web-invading spider and two host species. *Journal of Arachnology* 13: 43-59.

**Keyword:** *Argyrodes trigonum*, *Neriene radiata*, *Metepeira labyrinthea*, Spiders, Web-invading Spider, Prey-Predator Interactions

**Note:** Experiments conducted on PWRC.

Laroche G. E. 1958. Phytosociological study of the alluvial floodplain forest community in the Patuxent Wildlife Refuge. M.S. thesis, Catholic University of America. iv + 42 pp.

**Keyword:** Phytosociology, Floodplain Forest, Patuxent River, Plant Community Analysis, Soil Profile

**Note:** A quantitative vegetation study conducted in plots in various parts of the Patuxent bottomland forest.

Levin M. 1948. A limnological investigation of four acid water impoundments with special reference to their zooplankton. M.S. thesis, University of Maryland. 89 pp.

**Keyword:** Zooplankton, Water Quality, Acidity, Population

**Note:** Water chemistry effects on zooplankton were examined on the impoundments at PWRC.

Liang S. Y. 1996. Empirical study and simulation modeling of bottomland hardwood forest dynamics. Ph.D. thesis, University of Maryland, 176 pp.

**Keyword:** Herbivory, Flooding, Gap Dynamics, Demography, Modeling, Spatial Pattern  
**Note:** Woody species response to deer browsing, soil saturation, and microhabitat variations were investigated by empirical studies or simulation modeling.

Liang S. Y. and S. W. Seagle. 1993. Bottomland forest patch structure and codominant species interaction. *Bulletin of the Ecological Society of America* 74(2, Supplement):330 (Abstract).

**Keyword:** Community, Distribution, Detrended Correspondence Analysis, *Fagus grandifolia*, *Liriodendron tulipifera*  
**Note:** The abundance and composition of woody species in the Patuxent bottomland forest were reported.

Liang S. Y. and S. W. Seagle. 1995. Linking seedling dynamics to a forest gap model for prediction of disturbance effects on succession. *Bulletin of the Ecological Society of America* 76(2, Supplement):154 (Abstract).

**Keyword:** Simulation, Succession, Herbivory, Flooding, Demography  
**Note:** The abundance of woody species and seedling demography were collected in the Patuxent bottomland forest for model simulations.

Liang S. Y. and S. W. Seagle. 1996. Effects of white-tailed deer browsing on seedling demography of a bottomland hardwood forest. *The Association of Southeastern Biologists Bulletin* 43(2):99 (Abstract).

**Keyword:** Survival, Recruitment, Demography, Herbivory  
**Note:** A comparison of seedling demography in the Patuxent bottomland forest between the deer enclosure and control plots were reported.

Linehan J. T. and L. M. Llewellyn. 1957. An improved box trap for small game and fur animals. U.S. Fish and Wildlife Service, Wildlife Leaflet 386. 4 pp.

**Keyword:** Box Trap, Wildlife  
**Note:** Field tests of new design conducted at PWRC. Construction and advantages of the new aluminum-framed box trap were discussed.

Llewellyn L. M. 1950. Reduction of mortality in live-trapping mice. *Journal of Wildlife Management* 14(1):84-85.

**Keyword:** Deer Mouse, *Peromyscus leucopus noveboracensis*, Live-trapping, Evan's Vermin Trap, Sherman Metal Trap

**Note:** New trap design tested using Patuxent population of *Peromyscus leucopus*.

Llewellyn L. M. 1953. Growth rate of the raccoon fetus. *Journal of Wildlife Management* 17(3):320-321.

**Keyword:** Raccoon, *Procyon lotor*, Fetus, Growth Rate

**Note:** An adult female raccoon was live-trapped on the PWRC.

Llewellyn L. M. and F. H. Dale. 1964. Notes on the ecology of the opossum in Maryland. *Journal of Mammalogy* 45(1):113-122.

**Keyword:** Opossum, *Didelphis marsupialis*, Capture Recapture Studies, Sex Ratio, Population

**Note:** An 8-year period resulted in the capture of 224 opossums, with 541 trap records.

Llewellyn L. M. and R. K. Enders. 1954. Ovulation in the raccoon. *Journal of Mammalogy* 35(3):440.

**Keyword:** Raccoon, *Procyon lotor*, Ovulation, Laparotomy

**Note :** Laparotomies performed on wild-caught female raccoons to determine the stimulus for ovulation.

Llewellyn L. M. and R. K. Enders. 1954. Trans-uterine migration in the raccoon. *Journal of Mammalogy* 35(3):439.

**Keyword:** Raccoon, *Procyon lotor*, Trans-uterine Migration

**Note:** Two cases of trans-uterine migration were reported.

Llewellyn L. M. and C. G. Webster. 1960. Raccoon predation on waterfowl. *Transactions of the North American Wildlife and Natural Resources Conference* 25:180-185.

**Keyword:** Raccoon, *Procyon lotor*, Predation, Waterfowl

**Note:** Results of some of Uhler's studies on the Patuxent wetlands reported.

Locke L. N. and E. E. Brown. 1965. Occurrence of the fluke, *Procyotrema marsupiformis* Harkema and Miller, 1959, in a Maryland raccoon. *Journal of Parasitology* 51(3):355.

**Keyword:** Raccoon, *Procyon lotor*, *Procyotrema marsupiformis*, Fluke, Parasites

**Note:** The infection of *Procyotrema* was first reported in 1963 found in one of 47 wild-trapped raccoons over 6 years periods.

Locke L. N. and C. M. Herman. 1961. Trichomonas infection in mourning doves, *Zenaidura macroura*, in Maryland. Chesapeake Science 2(1-2):45-48.

**Keyword:** Mourning Dove, *Zenaidura macroura*, *Trichomonas gallinae*, Pathology

**Note:** Half of 578 morning doves trapped were from PWRC.

Locke L. N., C. M. Herman, and E. S. King, Jr. 1960. Case report -- pox in the mourning dove in Maryland. Avian Diseases 4(2):199-202.

**Keyword:** Morning Dove, *Zenaidura macroura*, Trichomoniasis, *Trichomonas gallinae*, Pathohistology

**Note:** Wild doves sampled from the adjacent Beltsville Agricultural Resource Center.

Locke L. N. and J. O. Knisley. 1965. Sarcocystis in a yellowthroat and a rusty blackbird. Bulletin of the Wildlife Disease Association 1(3):36.

**Keyword:** Sarcocystis, Yellowthroat, *Geothlypis trichas*, Rusty Blackbird, *Euphagus carolinus*, Parasites

**Note:** One adult male yellowthroat obtained from PWRC.

Locke L. N. and F. S. Locke. 1969. A winter record of the Wilson's warbler at the Patuxent Wildlife Research Center, Laurel, Maryland. Maryland Birdlife 25(1):16.

**Keyword :** Yellow Warbler, *Wilsonia pusilla*

**Note:** Field observation on Wilson's warbler was reported at PWRC.

Manning J. H. 1951. A study of the populations and growth phenomena of centrarchid fishes in a soft-water impoundment of Maryland. M.S. thesis, University of Maryland. iv + 85 pp.

**Keyword:** Bluegill , Largemouth Bass, Water Quality, Impoundment

**Note:** The population of centrarchid fishes were investigated in the Snowden Pond of PWRC.

Mansueti R. 1950. An ecological study of the fishes of the Patuxent River watershed. M.S. thesis, University of Maryland.

**Keyword:** Fish, Salinity, Population Distribution, Patuxent River, Water Quality

**Note:** PWRC served as one sampling site.

Martyniuk J. 1985. Stage-biased overwintering survival of the filmy dome spider (Araneae, Linyphiidae). *Journal of Arachnology* 13:321-329.

**Keyword:** *Prolinyphia marginata*, Survival, Fitness, Life History

**Note:** PWRC served as one study site.

McGilvrey F. B. 1966. Nesting of hooded mergansers of the Patuxent Wildlife Research Center, Laurel, Maryland. *Auk* 83(1):477-479.

**Keyword:** Hooded Merganser, *Lophodytes cucullatus*, Nesting Success

**Note:** Nesting reported in Wood Duck boxes on impoundments.

McGilvrey F. B. 1966. Second nestings of the wood ducks. *Auk* 83(2):303.

**Keyword:** Wood Duck, *Aix sponsa*, Nesting Success

**Note:** Recorded in nest boxes at PWRC.

McGilvrey F. B. 1968. Conditioning black ducks to nest in elevated cylinders. *Transactions of the Northeast Section of the Wildlife Society, Northeast Fish & Wildlife Conference* 28:213-220.

**Keyword:** Black Duck, *Anas rubripes*, Nesting Success

**Note:** Experiment conducted on impoundments.

McGilvrey F. B. 1969. Survival in wood duck broods. *Journal of Wildlife Management* 33(1):73-76.

**Keyword:** Wood Ducks, *Aix sponsa*, Survival, Nesting Success

**Note:** Results of 4-year field study on impoundments.

McGilvrey F. B. and F. M. Uhler. 1971. A starling-deterrent wood duck nest box. *Journal of Wildlife Management* 35(4):793-797.

**Keyword:** European Starling, *Sturnus vulgaris*, Wood Duck, *Aix sponsa*, Nest Box, Impoundment, Nesting

**Note:** Studies of nest box design conducted on PWRC impoundments.

McKnight K. H. 1979. *Lactarius umbrinopapillatus* sp nov. Pages 486-487. in L.R. Hesler and A.H. Smith, editors. *North American species of Lactarius*. University of Michigan Press, Ann Arbor. ix + 841 pp.



**Keyword:** Fungi, Taxonomy, Morphology

**Note:** New species, discovered on a portion of the PWRC South Tract formerly part of the Beltsville Agricultural Research Center, is apparently first described in the Hensler and Smith Handbook.

Meanley B. 1941. The pileated of Patuxent swamp. Maryland Conservationist 18(4):9-11.

**Keyword:** Pileated Woodpecker, *Dryocopus pileatus*, Nesting

**Note:** The first nesting record of pileated woodpecker at PWRC.

Meanley B. 1942. Utilization of sassafras by birds. Maryland Conservationist 19(4):20.

**Keyword:** Sassafras, Food Utilization, Wildlife

**Note:** Based on field observation on the PWRC.

Meanley B. 1964. Origin, structure, molt, and dispersal of a late summer red-winged blackbird population. Bird-Banding 35(1):32-38.

**Keyword:** Red-Winged Blackbird, *Agelaius phoeniceus*, Population, Banding, Mist Netting, Wetland

**Note:** Based in part on banding studies at PWRC.

Meanley B. 1968. Yellow-headed blackbird at the Patuxent Wildlife Research Center. Atlantic Naturalist 23(1):36.

**Keyword:** Yellow-headed Blackbird, *Xanthocephalus xanthocephalus*, Banding

**Note:** Caught in blackbird decoy trap.

Meanley B. 1969. Natural history of the king rail. U.S. Bureau of Sport Fisheries and Wildlife. North American Fauna 67. 108 pp.

**Keyword:** King Rail, *Rallus elegans*, Behavior, Breeding Biology, Life History, Ecology

**Note:** PWRC served as one observation site.

Meanley B. 1973. February nesting of mourning doves near Laurel, Maryland. Maryland Birdlife 29(1):33.

**Keyword:** Mourning Dove, *Zenaidura macroura*, Nesting, Copulation

**Note:** Early nesting activity of mourning doves in February may be the result of the relative mild weather.

Meanley B. 1975. Two more yellow-headed blackbirds banded near Laurel, Maryland. Maryland Birdlife 31(4):138-139.

**Keyword:** Banding, Yellow-headed Blackbird

**Note:** Additional records at PWRC.

Meanley B. 1980. Breeding status of the sora in Maryland. Maryland Birdlife 36:98.

**Keyword:** Sora, *Porzana carolina*, Breeding

**Note:** Sora (*Porzana carolina*) was found breeding in one of the Patuxent impoundments.

Meanley B. and G. M. Bond. 1970. Molts and plumages of the red-winged blackbird with particular reference to fall migration. Bird-Banding 41(1):22-27.

**Keyword:** Red-winged Blackbird, *Agelaius phoeniceus*, Migration, Plumage, Molting

**Note:** Partly based on studies of trapped birds at PWRC.

Meanley B. and M. C. Perry. 1974. Red-cockaded woodpecker near Bowie, Maryland. Maryland Birdlife 30(3):104.

**Keyword:** Red-cockaded Woodpecker, *Dendrocopos borealis*, Foraging

**Note:** Endangered species sighted at PWRC.

Meanley B., J. S. Webb, D. P. Fankhauser, and R. T. Mitchell. 1962. The blackbird banding program of the Patuxent Wildlife Research Center. Eastern Bird Banding Association News 25: 117-121.

**Keyword:** Red-winged Blackbird, *Agelaius phoeniceus*, Banding, Migration

**Note:** PWRC served as one semipermanent banding station.

Miles A. K., C. E. Grue, G. W. Pendleton, and J. H. Soares, Jr. 1993. Effects of Dietary Aluminum, Calcium, and Phosphorus on Egg and Bone of European Starlings. Archives of Environmental Contamination and Toxicology 24:206-221.

**Keyword:** *Sturnus vulgaris*, Toxicology, Reproduction, Acidification

**Note:** European starlings were captured in the wild at PWRC.

Mitchell R. T. 1946. Effects of DDT spray on eggs and nestlings of birds. Journal of Wildlife Management 10(3):192-194.

**Keyword:** Toxicology, Nesting Success, DDT

**Note:** Observations following a 5-pound per acre spray on an area of the Patuxent bottomland.

Mitchell R. T., H. P. Blagbrough, and R. C. VanEtten. 1953. The effects of DDT upon the survival and growth of nestling songbirds. *Journal of Wildlife Management* 17(1):45-54.

**Keyword:** Pesticide, DDT, Nesting Success, Survival, Songbirds, Banding

**Note:** DDT was aerially sprayed on the experimental field at PWRC and mortality of birds attracted to nest boxes were observed.

Morgan R. P.,II, S. T. Sulkin, and C. J. Henny. 1977. Serum proteins of Canada goose (*Branta canadensis*) subspecies. *Condor* 79(2):275-278.

**Keyword:** Canada Goose, *Branta canadensis*, Serum Proteins, Column Slab Electrophoresis

**Note:** Naturalized flocks at PWRC served as one sampling site .

Morley L. B. 1942. A report on the history and development of the Patuxent Research Refuge. Patuxent Wildlife Research Center. 86 pp.

**Keyword:** History, Patuxent Research Refuge

**Note:** Contains descriptions and photographs of the area before development as a research facility.

Morris J. A. and A.D. Alexander. 1951. Lymphocytic choriomeningitis virus from gray mice trapped in a rural area. *Cornell Veterinarian* 41:122-123.

**Keyword:** Gray Mice, *Mus musculus*, Lymphocytic Choriomeningitis

**Note:** Diseases found in gray mice (*Mus musculus*) trapped at the PWRC.

Mossett R. C. 1964. The mat-forming algae of a waste stabilization pond Island Marsh Unit No. 1, Patuxent Wildlife Research Center, Prince Georges County, Maryland. M.S. thesis, Catholic University of America. iv + 43 pp.

**Keyword:** Algae, Population, Marsh, Water Quality

**Note:** Study conducted when marsh was approximately 10 years old. Total 29 algal species reported.

Moulton C. A. 1990. Effects of urbanization on foraging behavior of six coexisting woodpeckers.

M.S. thesis, University of Maryland. ix + 100 pp.

**Keyword:** Woodpecker, Urbanization, Foraging Behavior

**Note:** PWRC served as an controlled site.

Nelson A. L. 1959. The Patuxent Research Refuge. *Bulletin of Medical Research* 13(1):16-29.

**Keyword:** Wildlife Management, Facility

**Note:** General description of facilities and programs.

Nestler R. B., J. V. Derby, and J. B. DeWitt. 1949. Vitamin A and carotene contents of some wildlife foods. *Journal of Wildlife Management* 13(3):271-274.

**Keyword:** Vitamin A, Carotene, Wildlife, Food Quality

**Note:** Invertebrates and plants collected from PWRC.

Nibley C. 1957. The ixodid ticks of birds on the Patuxent Research Refuge. 1957.

**Keyword:** Ticks, *Haemaphysalis leporis-palustris*, *Ixodes brunneus*, *Ixodes dentatus*, Population fluctuation, Trap

**Note:** Three species of ticks recorded from 32 species of birds.

Nibley C. 1962. Tick collections from ground-feeding birds at the Patuxent Research Refuge, Laurel, Maryland. *Wildlife Disease*.

**Keyword:** Ticks, *Haemaphysalis leporis-palustris*, *Ixodes brunneus*, *Ixodes dentatus*, Parasites

**Note:** Three species of ticks collected from 34 species of birds at PWRC.

Nichols J. D. N. B. R. and S. L. H. J. E. Stokes. 1981. Remarks on the use of mark-recapture methodology in estimating avian population size. *The Proceedings of an International Symposium on Estimating Numbers of Terrestrial Birds. Studies in Avian Biology* No.6:121-136.

**Keyword:** Capture-Recapture Studies, Population Estimates, Barn Swallow, *Hirundo rustica*, Tufted Titmouse, *Parus bicolor*, Jolly-Seber Model

**Note:** Data for barn swallow (*Hirundo rustica*) and tufted titmouse (*Parus bicolor*) were collected at PWRC.

Nichols J. D. and J. E. Hines. 1982. Of mice and mallards: tests of the compensatory mortality

hypothesis in vertebrate populations. *Bulletin of the Ecological Society of America* 63(2):85 (Abstract).

**Keyword:** Compensatory Mortality Hypothesis, *Anas platyrhynchos*, *Peromyscus leucopus*, Population, Capture-Recapture Studies

**Note:** Compensatory mortality hypothesis tested with Patuxent *Peromyscus* population.

Nichols J. D., H. F. Percival, R. A. Coon, M. J. Conroy, G. L. Hensler, and J. E. Hines. 1984. Observer visitation frequency and success of mourning dove nests: A field experiment. *Auk* 101(2):398-402.

**Keyword:** Jolly-Seber Model, Visitation Frequency, Survival Rate, Nesting Success, Mourning Dove, *Zenaida macroura*

**Note:** Studies conducted on PWRC and nearby areas. Comparison of daily survival probability and numbers of fledglings per successful nest for nests visited at daily and weekly intervals was reported.

Nichols J. D. and K. H. Pollock. 1983. Estimation methodology in contemporary small mammal capture-recapture studies. *Journal of Mammalogy* 64(2):253-260.

**Keyword:** Capture Recapture Model, Jolly-Seber Model, *Peromyscus*, Population Estimates

**Note:** Largely theoretical; uses data from Patuxent studies on *Peromyscus*.

Nichols J. D., K. H. Pollock, and J. E. Hines. 1984. The use of a robust capture-recapture design in small mammal population studies: A field example with *Microtus pennsylvanicus*. *Acta Theriologica* 29(30):357-365.

**Keyword:** Capture-Recapture Studies, *Microtus pennsylvanicus*, Population Estimates

**Note :** Fieldwork conducted in old field habitat at PWRC.

Obrecht H. H., III, W. J. Fleming, and J. H. Parsons. 1991. Management of powerline rights-of-way for botanical and wildlife value in metropolitan areas. Page 255. In L.W. Adams and D.L. Leedy, editors. *Wildlife Conservation in Metropolitan Environments*. National Institute for Urban Wildlife, Columbia, MD. viii + 264 pp.

**Keyword :** Species Diversity, Wildlife Management, Powerline Rights-of-way

**Note:** Species diversity of PEPCO powerline rights-of-way at PWRC were investigated 30 years after the construction.

Oresman S., J. Tiffany, and C. S. Robbins. 1948. Twelfth breeding-bird census: 4. Damp deciduous scrub with numerous standing dead trees. *Audubon Field Notes* 2(6):226-227.

**Keyword:** Bird Census, Population Fluctuation, Fire, DDT

**Note:** A pine-deciduous forest at the Beltsville Agricultural Research Center where was severely burned in the spring of 1942 and sprayed with a 5-pound-per acre oil solution of DDT after the burning.

Orr R. L. 1992. The northeastern Odonata collectors' meeting, Patuxent Wildlife Research Center, May 23-24. ARGIA 4(1):7-8.

**Keyword:** Odonata

**Note:** PWRC served as primary collection site.

Orr R. L. 1993. *Celithemis martha* and *Celithemis ornata*-- Are they the same species? ARGIA 5(3):13.

**Keyword:** Odonata, Taxonomy, *Celithemis martha*, *Celithemis ornata*

**Note:** PWRC served as the primary collection site.

Orr R. L. 1995. Do dragonfly larvae sunbathe? ARGIA 7(2):15.

**Keyword:** Dragonfly, Behavior

**Note:** PWRC served as the primary collection site.

Orr R. L. 1996. The dragonflies and damselflies of Patuxent Wildlife Research Center and Vicinity.

**Keyword:** Odonata, Damselfly, Zygoptera, Dragonfly, Anisoptera, Phenogram, Population, Abundance

**Note:** 105 Odonata species from PWRC and adjacent areas were cataloged by date, number, and location.

Orr R. L. 1996. The Odonata of Patuxent Wildlife Research Center and Vicinity. Bulletin of American Odonatology 4(2):37-67.

**Keyword:** Odonata, Phenograms, Distribution, Abundance

**Note:** 105 Odonata species from PWRC and adjacent areas were cataloged by date, number, and location.

Ostdiek J. L. 1961. Fluctuations in populations of Collembola within leaf litter in the Patuxent Research Refuge, Maryland. Catholic University of American Biological Studies 62. 51 pp.

**Keyword :** Collembola, Population Fluctuation, Leaf Litter  
**Note:** Four stations established in different community types.

Owens H. B. 1963. A study of the effect of conservation farming on populations of beneficial and destructive insects. Ph.D. thesis, University of Maryland. vi + 176 pp.

**Keyword:** Habitat, Population, Conservation, Land Use  
**Note:** Studies were conducted in conjunction with farm wildlife experiments. Total 362 insect species were identified.

Pagac B. B., M. J. Turell, and G. H. Olsen. 1992. Eastern equine encephalomyelitis virus and *Culiseta melanura* activity at the Patuxent Wildlife Research Center, 1985-90. Journal of the American Mosquito Control Association 8(3):328-330.

**Keyword:** Eastern Equine Encephalomyelitis, Virus Isolation, Mosquito, *Culiseta melanura*  
**Note:** Mosquito population densities, virus isolation and seroconversion in sentinel quail were used to monitor EEE activity at PWRC.

Perry M. C. 1987. Common loon at the Patuxent Wildlife Research Center. Maryland Birdlife 43(2):35-36.

**Keyword:** Common Loon, *Gavia immer*, Aspergillosis, *Aspergillus fumigatus*  
**Note:** A common loon (*Gavia immer*) was observed from April 17-June 1, 1987 on the Snowden Pond and was found dead on June 4, 1987. Post-mortem examination including pathohistology revealed extreme emaciation and a severe fungal infection throughout its air sacs.

Perry M. C. 1987. Fifty years of wildlife management at Patuxent Wildlife Research Center. Transactions of the Northeast Section of the Wildlife Society, Northeast Fish & Wildlife Conference 44: 87 (Abstract).

**Keyword:** Wildlife Management, Impoundment, Meadow, Farm, Power-line Maintenance  
**Note:** Abstract. A review of wildlife management at PWRC.

Perry M. C. (In press). Wetland mitigation - partnership between an electric power company and a national wildlife refuge. Journal of Environmental Management .

**Keyword:** Wetlands, Mitigation, Wildlife, Partnership, Biodiversity  
**Note:** Species diversity of plants and animals in constructed wetlands at North tract of PWRC were reported.

Perry M. C., A. S. Deller, and S. B. Pugh. 1995. Survival and growth of nursery-stock woody plants in constructed forested wetlands in central Maryland. Pages 387-390. In Mary C. Landin, editor. National Interagency Workshop on Wetlands: Technology Advances for Wetlands Science. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. 428 pp.

**Keyword:** Wetland, Survival, Vegetation, Transplant

**Note:** Total 1240 trees and 601 shrubs were monitored for survival and growth in the constructed wetland at PWRC .

Perry M. C. and B. Meanley. 1976. Early egg laying for the Carolina wren. *Maryland Birdlife* 32(1):15.

**Keyword:** Carolina Wren, *Thryothorus ludovicianus*, Nesting

**Note:** The earliest known egg laying for a Carolina Wren in Maryland.

Perry M. C., S. B. Pugh, and A. S. Deller. 1995. Forested wetlands constructed for mitigation of destroyed natural wetlands. The Sixth International Conference on Ecological System Enhancement Technology for Aquatic Environments, Tokyo, Japan. (Abstract).

**Keyword:** Wetlands, Mitigation

**Note:** Woody seedlings, avian species, and mammals were investigated in the constructed forested wetlands to determine the success for providing suitable wildlife habitat.

Pollock K. H., J. E. Hines, and J. D. Nichols. 1985. Goodness-of-fit tests for open capture-recapture models. *Biometrics* 41(2):399-410.

**Keyword:** Capture Recapture Model, *Microtus pennsylvanicus*, Meadow vole, Jolly-Seber Model

**Note:** Example cited relies on field studies on *Microtus* conducted on PWRC (see Nichols et al. 1984).

Powell G. V. N. and D. C. Gray. 1980. Dosing free-living nestling starlings with an organophosphate. *Journal of Wildlife Management* 44(4):918-921.

**Keyword:** Organophosphate, Pesticide, Farphur, European Starling, *Sturnus vulgaris*, Dosing, Toxicology, Cholinesterase

**Note:** Study done on European Starlings attracted to nest boxes.

Price D. L. 1954. Filarial parasites in mammals. *Journal of Parasitology* 40(5, sect. 2):16 (Abstract).



**Keyword:** Filarial Parasite, Mammals

**Note:** Filarial parasite found on seven mammal species was reported.

Price D. L. 1955. *Dipetalonema procyonis* n. sp. from *Procyon lotor lotor* (Linnaeus).  
Proceedings of the Helminthological Society of Washington 22: 38-41.

**Keyword:** Parasites, *Dipetalonema procyonis*, filarial worm, Raccoon, *Procyon lotor*

**Note:** New species of parasitic worm described from a Patuxent raccoon.

Price D. L. 1955. Epizootiological studies on some filarioid parasites of the family  
*Dipetalonematidae* (Nematoda: Filarioidea) found in certain small mammals. Ph.D. thesis,  
University of Maryland. xii + 171 pp.

**Keyword:** Filarioid Parasites, Epizootiology, Mammal, *Dipetalonematida*, Life History

**Note:** Parasites studied in mammals, including squirrels, raccoons, skunks, and opossums,  
at Patuxent. Arthropod vectors, including mosquitos, ticks, fleas and biting flies also  
examined and used in studies designed to elucidate life histories.

Price D. L. 1957. *Dirofilaria uniformis*, n. sp., (Nematoda: Filarioidea) from *Sylvilagus  
floridanus* mallurus (Thomas) in Maryland. Proceedings of the Helminthological Society  
of Washington 24: 15-19.

**Keyword:** *Dirofilaria uniformis*, Filarial Worm, *Sylvilagus floridanus*, Parasites

**Note:** Some infected rabbits collected from Patuxent Wildlife Research Center.

Price D. L. 1962. Description of *Dipetalonema interstitium* n. sp. from the grey squirrel and  
*Dipetalonema llewellyni* n. sp. from the raccoon. Proceedings of the Helminthological  
Society of Washington 29:77-82.

**Keyword:** Parasite, Gray Squirrel, *Sciurus carolinensis*, Raccoon, *Procyon lotor*

**Note:** Raccoons and gray squirrels were collected from PWRC.

Rattner B. A. and C. E. Grue. 1990. Toxicity of parathion to captive European starlings (*Sturnus  
vulgaris*)-absence of seasonal effects. Environmental Toxicology and Chemistry. 9:1029-  
1033.

**Keyword :** Ambient Temperature, Cholinesterase Inhibition, Circannual Toxicity, Median  
Lethal Dosage, Season, European Starlings, *Sturnus vulgaris*

**Note:** Wild European starlings were captured from PWRC.

Redmond D. C. 1994. Manipulated and unmanipulated flooding regime and bird nesting habitat along two rivers in the coastal plain of Maryland. M.S. thesis, University of Maryland. vi + 105 pp.

**Keyword:** Point Count, Floodplain, Vegetation Structure, Abundance

**Note:** Bird nesting territory of 42 bird species were recorded in forested areas along the Patuxent and Little Patuxent Rivers at PWRC.

Robbins C. S. 1949. Summary of Maryland nest records, 1949. *Maryland Birdlife* 5(4):41-48.

**Keyword:** Nesting, Maryland

**Note :** Partly bird nesting records were from PWRC.

Robbins C. S. 1949. Weather and bird migration. *Wood Thrush* 4(4):130-144.

**Keyword:** Migration , Weather

**Note:** Spring arrival dates at PWRC for some migratory birds given.

Robbins C. S. 1953. The evening grosbeak in Maryland. *Maryland Birdlife* 9(4-5):19-23.

**Keyword:** Evening Grosbeak, *Coccothraustes vespertinus*

**Note:** Records irruption into PWRC and surrounding areas.

Robbins C. S. 1970. Comparison of two methods for monitoring changes in winter populations of songbirds. Pages 38-39 in Soren Svensson, editor. *Bird Census Work and Environmental Monitoring*. Bulletin 9, Ecological Research Committee, Lund, Sweden. 52 pp.

**Keyword:** Population Surveys, Songbirds, Bird Census Techniques

**Note:** Sampling routes include PWRC.

Robbins C. S. 1970. Winter bird survey technique tested in Maryland. *Maryland Birdlife* 26(1):11-20.

**Keyword:** Population Surveys, Bird Census Techniques

**Note:** Preliminary testing of survey technique done at PWRC.

Robbins C. S. 1979. Effect of forest fragmentation on bird populations. Pages 198-212 in Richard M. DeGraaf and Keith E. Evans, compilers. *Management of North Central and Northeastern Forests for Nongame Birds, Proceedings of the Workshop*. General Technical Report NC-51. U.S. Forest Service, St. Paul, MN. 268 pp.

**Keyword:** Fragmentation, Population Surveys, Songbirds

**Note:** Studies of PWRC bird populations used as one of several cases illustrating effect of fragmentation of forest.

Robbins C. S. 1979. Effect of forest fragmentation on bird populations. *Passenger Pigeon* 41(3):101-119.

**Keyword:** Fragmentation, Population

**Note:** Originally published in *Management of North Central and Northeastern Forests for Nongame Birds*, U.S. Forest Serv. General Technical Rep. NC-51, 1979. p. 198-213.

Robbins C. S. 1980. Effect of forest fragmentation on breeding bird populations in the piedmont of the mid-Atlantic region. Pages 31-36 *in* J.F. Lynch, editor. *Proceedings of the 1979 Mid-Atlantic Natural History Symposium: Bird Populations--A Litmus Test of the Environment*. *Atlantic Naturalist* 33. 48 pp.

**Keyword:** Fragmentation, Population, Breeding Birds, Neotropical Birds

**Note:** Population trends for birds at PWRC given.

Robbins C. S. 1981. Effect of time of day on bird activity. Pages 275-286 *in* C.J. Ralph and J.M. Scott, editors. *Estimating Numbers of Terrestrial Birds*. Cooper Ornithological Society, *Studies in Avian Biology* 6. x, 630 pp.

**Keyword:** Population Surveys, Breeding Birds, Banding

**Note:** Part of the field work done at PWRC.

Robbins C. S. 1988. Forest fragmentation and its effects on birds. *In* J.E. Johnson, ed., *Managing north central forests for non-timer values*. SAF publication 88-04. Society of American Foresters, Bethesda, MD. 156pp.

**Keyword:** Forest management, Neotropical Migrants, Forest-Interior Species, Biodiversity

**Note:** Summary report included the results from the study of "habitat area requirements of breeding forest birds of the middle Atlantic States".

Robbins C. S. 1991. Breeding Bird Census: 9. Mature beech-maple-oak bottomland forest. *Journal of Field Ornithology* 62(1, Supplement):37-38.

**Keyword:** Breeding Bird Survey, Population, Territory, Habitat, Abundance

**Note:** Total 35 species and 232 territories were reported.

Robbins C. S. 1992. Mature beech-maple-oak bottomland forest. *Journal of Field Ornithology* 63(1, Supplement):43.

**Keyword:** Breeding Bird Census, Population, Abundance, Habitat

**Note:** Total 38 species were recorded during the breeding bird census conducted at the bottomland forest of PWRC.

Robbins C. S. and D. Bystrak. 1974. The winter bird survey of central Maryland, U.S.A. *Acta Ornithologica* 14(17):254-271.

**Keyword:** Population Surveys, Winter Bird Census

**Note:** Study area includes PWRC.

Robbins C. S., D. K. Dawson, and B. A. Dowell. 1989. Habitat area requirements of breeding forest birds of the middle Atlantic States. *Wildlife Monographs* 103:1-34.

**Keyword:** Breeding Bird, Habitat, Forest Management, Avian Distribution

**Note:** PWRC served as one of total 469 study areas in four regions.

Robbins C. S., P. F. Springer, and C. G. Webster. 1951. Effects of five-year DDT application on breeding bird population. *Journal of Wildlife Management* 15(2):213-216.

**Keyword:** Pesticide, DDT, Breeding Birds, Population Surveys

**Note:** DDT was sprayed annually from 1945 to 1949 in late May or early June on a 46.8-ha tract of PWRC bottomland forest and the effect on breeding bird population was reported.

Robbins C. S. and R. E. Stewart. 1949. Effects of DDT on bird population of scrub forest. *Journal of Wildlife Management* 13(1):11-16.

**Keyword:** Pesticide, DDT, Population Surveys, Nesting Birds

**Note:** Census on a burned-over portion of the adjacent Beltsville Agricultural Research Center.

Robbins C. S., R. E. Stewart, and M. Karplus. 1947. Eleventh breeding bird census. 14. Dry deciduous scrub. *Audubon Field Notes* 1(6):200-201.

**Keyword:** Population Surveys, Breeding Birds, Scrub

**Note:** Conducted on burned-over portion of the adjacent Beltsville Agricultural Research Center.

Robbins C. S. and W. T. Van Velzen. 1970. Progress report on the North American Breeding Bird Survey. Pages 22-30 in Soren Svensson, editor. Bird Census Work and Environmental Monitoring. Bulletin 9, Ecological Research Committee, Lund, Sweden. 52 pp.

**Keyword:** Breeding Birds, Population Survey, Territory

**Note:** Methods for breeding bird survey were developed at PWRC.

Ruggiero M. A. 1977. The distribution of benthic macroinvertebrates in the non-tidal portion of the Patuxent River, Maryland. M.S. thesis, George Washington University. vii + 51 pp.

**Keyword:** Patuxent River, Benthic Macroinvertebrate, Water Quality

**Note:** Two sampling stations on PWRC portion of the river.

Ruggiero M. A. 1982. The ecological energetics of a population of eastern tent caterpillars, *Malacosoma americanum* (Lepidoptera: Lasiocamidae), in Maryland. Ph.D. thesis, George Washington University. ix + 101 pp.

**Keyword:** Eastern Tent Caterpillars, *Malacosoma americanum*, Energetics, Population, Nutritional Ecology

**Note:** Study conducted on PWRC.

Ruggiero M. A. 1986. Estimated energy budget for a population of eastern tent caterpillars (Lepidoptera: Lasiocampidae) in Maryland. Entomology 15: 795-799.

**Keyword:** Eastern Tent Caterpillars, *Malacosoma americanum*, Energetics, Populations, Nutritional Ecology

**Note:** Based on 1982 dissertation.

Rummel L. H. 1979. Canada geese of the Patuxent Wildlife Research Center: Family Relationships, behavior and productivity. M.S. thesis, University of Maryland. ix + 179 pp.

**Keyword:** Canada Goose, *Branta canadensis*, Behavior, Productivity, Genealogy

**Note:** Naturalized population studied in mid-1970's.

Ruth J. M. 1995. Effects of vegetative structure and surrounding land-uses on avian communities in the floodplain forests of Maryland. Ph.D. thesis, George Mason University. xiii + 230 pp.

**Keyword:** Floodplain, Habitat, Life History Guild, Vegetation Structure, Land Use

**Note:** Part of the study sites were located at the Patuxent bottomland forest.

Schauff M. E. 1983. A new genus of Mymaridae (Hymenoptera: Chalcidoidea) from the new world. *Proceedings of the Entomological Society of Washington* 85(3): 543-551.

**Keyword:** Mymaridae, *Omyomymar*, Taxonomy

**Note:** Two species of the genus *Omyomymar*, one of them a new species, are recorded from PWRC, which is the type locality for the new species.

Schauff M. E. and E. E. Grissell. 1982. Nomenclatural notes on *Polynema* (Hymenoptera: Mymaridae), with description of a new species. *Proceedings of the Entomological Society of Washington* 84(3): 529-534.

**Keyword:** Parasites, Lily Planthopper, *Megamelus davisii*, *Polynema ema*, Nomenclature

**Note:** Specimens of *Polynema ema*, a new species, recorded from PWRC .

Schmid F. C. 1958. Cedar waxwings and fox sparrow feed upon multiflora rose. *Wilson Bulletin* 70(2):194-195.

**Keyword:** Multiflora Rose, *Rosa multiflora*, Cedar Waxwing, *Bombycilla cedrorum*, Fox Sparrow, *Passerella iliaca*, Feeding Behavior

**Note:** Observation made on "Conservation Farm".

Schmid F. C. 1960. Banding record of Harris' sparrow in Maryland. *Maryland Birdlife* 16(1):11.

**Keyword:** Harris' Sparrow, *Zonotrichia querula*

**Note:** Trapped at PWRC.

Schmid F. C. 1963. Record longevity of a wild red-shouldered hawk. *Bird-Banding* 34: 160.

**Keyword:** Red-shouldered Hawk, *Buteo lineatus*, Banding trap, Bal-chatri trap

**Note:** Band recovered at Patuxent.

Scott R. F. 1965. Problems of multiflora rose spread and control. *Transactions of the North American Wildlife and Natural Resources Conference* 30:360-378.

**Keyword:** Multiflora Rose, *Rosa multiflora*, Invasive Plant

**Note:** Reports the spread and control of multiflora rose planted between 1947 and 1956 at PWRC.

Seagle S. W. and S. Y. Liang. 1995. Simulating the influence of deer browsing on bottomland forest succession. *Bulletin of the Ecological Society of America* 76(2, Supplement):241 (Abstract).

**Keyword:** Simulation, Succession, Herbivory, Diversity, White-tailed Deer, *Odocoileus virginianus*

**Note:** The abundance of woody species and seedling demography collected in the Patuxent forest were used for model simulations.

Seagle S. W. and S. Y. Liang. 1996. Simulating the impact of white-tailed deer browsing on succession in a bottomland hardwood forest. *The Association of Southeastern Biologists Bulletin* 43(2):130 (Abstract).

**Keyword:** Life History, Succession, Herbivory, Simulation, White-tailed Deer, *Odocoileus virginianus*

**Note:** Abstract. The abundance of woody species and seedling demography collected in the Patuxent bottomland forest were used for model simulations.

Seagle S. W. and S. Y. Liang. (in press). Bottomland forest composition and seedling diversity: succession and browsing by overabundant deer. *In* W. McShea and B. Underwood, editors. *The science of overabundance*, Smithsonian Institution.

**Keyword:** Simulation, Browsing, White-tailed Deer, *Odocoileus virginianus*, Succession

**Note:** Theoretical simulations of deer browsing effects on the Patuxent bottomland forest based on an individual-based gap model.

Shearer C. A. 1971. A study of the ecology, taxonomy and physiology of some wood-inhabiting Ascomycetes and fungi imperfecti from the Patuxent river. Ph.D. thesis, University of Maryland. ix + 105 pp.

**Keyword:** Fungi Imperfecti, Ascomycetes, Salinity, Distribution, Succession

**Note:** PWRC served as one sampling site. Total 41 species of Fungi Imperfecti and 17 species of Ascomycetes were collected from balsa wood submerged in the Patuxent river of PWRC.

Shearer C. A. 1972. Fungi of the Chesapeake Bay and its tributaries. III. The Distribution of wood-inhabiting ascomycetes and fungi imperfecti of the Patuxent River. *American Journal of Botany* 59: 961-969.

**Keyword:** Fungi, Salinity, Patuxent River, Chesapeake Bay

**Note:** PWRC was a collection site for a study relating the distribution of fungal species to salinity.

Shearer C. A. 1973. Fungi of the Chesapeake Bay and its tributaries II. The genus *conioscypha*. Mycologia 65: 128-136.

**Keyword:** Fungi, Patuxent River, Chesapeake Bay, *Conioscypha*

**Note:** Two species of *Conioscypha* were recorded from balsa wood submerged in the Patuxent River at PWRC. One specimen, *C. Lignicola* was the first North American record and the other was a new species.

Shearer C. A. and J. L. Crane. 1971. Fungi of the Chesapeake Bay and its tributaries. I. Patuxent River. Mycologia 63: 237-260.

**Keyword:** Fungi, Patuxent River, *Endophragma australiensis*, Chesapeake Bay

**Note:** *Endophragma australiensis*, a first North American record was reported on balsa wood submerged in the Patuxent River of PWRC .

Shelangouski R. 1965. A study in revegetation. M.S. thesis, Catholic University of America. iii + 20 pp.

**Keyword:** Revegetation, Composition, Vegetation Cover, Succession

**Note:** Study was conducted on newly-cleared powerline cut occurred during the winter of 1962-1963 at PWRC.

Stamm D. D., D. E. Davis, and C. S. Robbins. 1960. A method of studying wild bird populations by mist-netting and banding. Bird-Banding 31(3):115-130.

**Keyword:** Mist Netting, Banding

**Note:** Census technique devised and tested at PWRC.

Stewart R. E. 1942. Winter birds of the Patuxent Research Refuge, Maryland. Maryland Conservation 19(4):10-11, 26-29.

**Keyword:** Population Surveys, Christmas Bird Count, Winter Bird Survey

**Note:** Species accounts of birds observed in winter.

Stewart R. E. 1948. The ecological distribution of birds. Maryland Naturalist 18: 23-29.

**Keyword:** Physiography, Distribution

**Note:** PWRC used as example of effects of physiography on bird distribution.

Stewart R. E. 1949. Ecology of a nesting red-shouldered hawk population. Wilson Bulletin



61(1):26-35.

**Keyword:** Red-shouldered Hawk, *Buteo lineatus lineatus*, Nesting, Habitat, Feeding Habits, Survival

**Note:** Studied in various portions of the Patuxent and Potomac valleys, including sites on PWRC.

Stewart R. E. 1952. Census of woodcock breeding population in vicinity of Patuxent Refuge, Maryland in 1951. Page 29 in John W. Aldrich. Investigations of Woodcock, Snipe and Rails in 1951. U.S. Fish and Wildlife Service, Special Scientific Report--Wildlife No. 14. 58 pp.

**Keyword:** Woodcock, Breeding Population Surveys

**Note:** Study conducted in 4224 ha that included PWRC.

Stewart R. E. 1953. A life history study of the yellow throat. Wilson Bulletin 65(2):99-115.

**Keyword:** Yellowthroat, *Geothlypis trichas brachidactyla*, Behavior, Life History

**Note:** Primary study area was in Michigan, but supplemental information obtained at PWRC was included.

Stewart R. E., J. B. Cope, and C. S. Robbins. 1945. Live trapping of hawks and owls. Journal of Wildlife Management 9(2):99-104.

**Keyword:** Trapping, Verbal Leg-hold Trap

**Note:** Methods of trapping raptors tested; 80 hawks and 37 owls captured.

Stewart R. E., J. B. Cope, C. S. Robbins, and J. W. Brainerd. 1946. Effects of DDT on birds at the Patuxent Wildlife Research Refuge. Journal of Wildlife Management 10(3):195-201.

**Keyword:** Pesticide, DDT, Population Survey, Toxicology

**Note:** A 46.8 ha tract of bottomland forests at PWRC was sprayed with DDT in June 1945. Before and after counts was made on birds in sprayed and unsprayed forests of PWRC.

Stewart R. E., J. B. Cope, C. S. Robbins, and J. W. Brainerd. 1952. Seasonal distribution of bird populations at the Patuxent Research Refuge. American Midland Naturalist 47(2):257-363.

**Keyword:** Population Survey, Population Fluctuation, Taxonomy, Distribution

**Note:** A major work on bird populations on PWRC.

Stewart R. E., M. Karplus, and C. S. Robbins. 1947. Eleventh breeding-bird census. 13. Damp deciduous scrub with numerous standing dead trees. Audubon Field Notes 1(6):200.

**Keyword:** Population, Fire

**Note:** Conducted on burned portion of the adjacent Beltsville Agricultural Research Center.

Stewart R. E. and C. S. Robbins. 1958. Birds of Maryland and the District of Columbia. U.S. Fish and Wildlife Service, North American Fauna No. 62. v, 401 pp.

**Keyword:** Breeding, Migration, Population Distributions

**Note:** Includes breeding bird densities for Patuxent habitats.

Steyskal G. C. and H. Robinson. 1970. Dolichopodidae from the Patuxent Wildlife Refuge, Maryland, with the descriptions of 3 new species of *Newrigona* (Diptera). Proceedings of the Entomological Society of Washington 72: 448-453.

**Keyword:** Diptera, Dolichopodidae, *Newrigona*, Taxonomy

**Note:** Seventeen species recorded: Patuxent is the type locality for the three new species described.

Stickel L. F. 1946. Experimental analysis of methods for measuring small mammal populations. Journal of Wildlife Management 10(2):150-159.

**Keyword:** *Peromyscus leucopus*, Wood Mouse, Capture Recapture Studies, Trapping, Population Estimates

**Note:** Snap trapping and live trapping were evaluated as sampling methods for population estimates.

Stickel L. F. 1946. Field studies of a *Peromyscus* population in an area treated with DDT. Journal of Wildlife Management 10(3):216-218.

**Keyword:** Deer Mouse, *Peromyscus leucopus*, Pesticide, DDT, Toxicology, Population

**Note:** Populations estimated before and after spraying on treated and control areas .

Stickel L. F. 1946. The source of animals moving into a depopulated area. Journal of Mammalogy 27(4):301-307.

**Keyword:** *Peromyscus leucopus*, Wood mouse, Capture Recapture Studies, Colonization

**Note:** The movement of *Peromyscus* in the bottomland forest of a 6.8 ha, circular plot was

reported.

Stickel L. F. 1948. Effect of bait in live trapping *Peromyscus*. Journal of Wildlife Management 12(2):211-212.

**Keyword:** *Peromyscus leucopus*, Wood Mouse, Capture Recapture Study, Trapping

**Note:** Evaluation was made on *Peromyscus* in Patuxent bottomland forest.

Stickel L. F. 1948. Observations on the effect of flood on animals. Ecology 29(4):505-507.

**Keyword:** Flood, Population Fluctuations, *Peromyscus leucopus*, *Terrapene c. carolina*

**Note:** Effects on mammals, amphibians, reptiles observed in Patuxent bottomlands.

Stickel L. F. 1948. The trap line as a measure of small mammal populations. Journal of Wildlife Management 12(2):154-161.

**Keyword:** *Peromyscus leucopus*, Wood Mouse, Capture Recapture Studies, Population Estimates

**Note:** Studies evaluating effectiveness of trap lines for estimating population density conducted with *Peromyscus* populations in the Patuxent bottomland forest.

Stickel L. F. 1949. An experiment on *Peromyscus* homing. American Midland Naturalist 41(3):659-664.

**Keyword:** *Peromyscus leucopus*, Wood Mouse, Homing behavior, Capture Recapture Studies

**Note:** The homing behavior was studied in Patuxent bottomlands.

Stickel L. F. 1950. Populations and home range relationships of the box turtle, *Terrapene C. Carolina* (Linnaeus) . Ecological Monographs 20: 351-378.

**Keyword:** Eastern Box Turtle, *Terrapene carolina*, Population, Behavior, Home Range

**Note:** Results of intensive study conducted on population of 1 11.64 ha portion of the Patuxent bottomlands.

Stickel L. F. 1951. Wood mouse and box turtle populations in an area treated annually with DDT for five years. Journal of Wildlife Management 15(2):161-164.

**Keyword:** *Peromyscus leucopus*, Wood Mouse, *Terrapene carolina*, Eastern Box Turtle, Pesticide, DDT, Toxicology, Population Fluctuation

**Note:** DDT effect on populations was tested in areas treated with DDT for five consecutive years and control areas .

Stickel L. F. 1954. A comparison of certain methods of measuring ranges of small mammals. *Journal of Mammalogy* 35(1):1-15.

**Keyword:** *Peromyscus leucopus*, Wood Mouse, Home Range, Population

**Note:** Studies of *Peromyscus leucopus* at PWRC used as basis of a comparative methodological study.

Stickel L. F. 1960. *Peromyscus* ranges at high and low population densities. *Journal of Mammalogy* 41(4):433-441.

**Keyword:** *Peromyscus leucopus*, Wood Mouse, Population Fluctuation, Capture Recapture Studies

**Note:** Population density was investigated in Patuxent bottomlands.

Stickel L. F. 1965. A method of approximating range size of small mammals. *Journal of Mammalogy* 46(4):677-679.

**Keyword:** *Peromyscus leucopus*, Wood Mouse, Home Range

**Note:** Method developed with *Peromyscus* populations studied in the Patuxent bottomlands.

Stickel L. F. 1978. Changes in a box turtle population during three decades. *Copeia* 1978(2):221-225.

**Keyword:** Eastern Box Turtle, *Terrapene carolina*, Capture Recapture Studies, Population Fluctuations

**Note:** Studies of marked box-turtles (*Terrapene carolina*) in 1945, 1955, 1965, and 1975 in the Patuxent bottomland forest reported.

Stickel L. F. 1979. Population ecology of house mice in unstable habitats. *Journal of Animal Ecology* 48(3):871-887.

**Keyword:** House Mouse, *Mus musculus*, Population Fluctuation, Home Range

**Note:** Studies conducted as part of arm wildlife program; demographic features of population revealed.

Stickel L.F. 1989. Home range behavior among box turtles (*Terrapene c. carolina*) of a

bottomland forest in Maryland. *Journal of Herpetology* 23(1):40-44.

**Keyword:** Eastern Box Turtle, *Terrapene c. carolina*, Behavior, Home Range, Capture Recapture Studies

**Note:** Box turtles in the bottomland forest of PWRC and surrounding areas were studied.

Stickel L. F. and C. M. Bunck. 1989. Growth and morphometrics of the box turtle, *Terrapene c. carolina*. *Journal of Herpetology* 23(3):216-223.

**Keyword:** Eastern Box Turtle, *Terrapene c. carolina*, Morphology, Growth, Allometry

**Note:** Box turtles were studied at an 11.8 ha bottomland forest of PWRC and surrounding area from 1944 to 1981, most intensively in 1945, 1955, 1965, and 1975. During this period total 678 turtles were captured at PWRC.

Stickel L. F., W. H. Stickel, and F. C. Schmid. 1980. Ecology of a Maryland population of black rat snakes (*Elaphe o. obsoleta*). *American Midland Naturalist* 103(1):1-14.

**Keyword:** Black Rate Snake, *Elaphe o. obsoleta*, Capture Recapture Studies, Home Range, Behavior

**Note:** Over the 35-year period, 330 snakes were recorded a total of 704 times at PWRC.

Stickel L. F. and O. Warbach. 1960. Small-mammal populations of a Maryland woodlot, 1949-1954. *Ecology* 41(2):269-286.

**Keyword:** Capture Recapture Studies, Population Fluctuation, Sex Ratio, Home Range, Reproduction

**Note:** Part of farm wildlife research program .

Stickel W. H. 1951. Occurrence and identification of the prairie deer-mouse in central Maryland. *Proceedings of the Biological Society of Washington* 64:25-31.

**Keyword:** *Peromyscus maiculatus*, Prairie Deer Mouse, Taxonomy

**Note:** Discuss the identity of *Peromyscus maiculatus* population at PWRC.

Stickel W. H. 1979. Vegetation and vertebrates of the Patuxent Wildlife Research Center: outline of ecology and annotated lists. Editor. Patuxent Wildlife Research Center. ii + 121 pp.

**Keyword:** Vegetation, Vertebrate, Composition, Abundance

**Note:** A reprint of Hotchkiss and Stewart (1947) and updated and annotated lists of plants and vertebrates.

Stickel W. H. and J. B. Cope. 1947. The home range and wanderings of snakes. *Copeia* 1947(2):127-136.

**Keyword:** Snake, Home Range, Capture Recapture Studies

**Note:** Total 246 snakes of 13 species were marked and home range was estimated.

Stiller D., R. F. Whitcomb, M. E. Coan, and J. G. Tully. 1981. Direct isolation in cell-free medium of a spiroplasma from *Haemaphysalis leporispalustris* (Acari: Ixodidae) in Maryland. *Current Microbiology* 5:339-342.

**Keyword:** *Haemaphysalis leporispalustris*, Rabbit Tick, Cottontail Rabbits, *Sylvilagus floridanus*, *Ixodes dentatus*, Spiroplasma

**Note:** Ticks identified as *Haemaphysalis leporispalustris* and *Ixodes dentatus* were removed from four adult cottontail rabbits (*Sylvilagus floridanus*) at PWRC.

Stiller D., R. F. Whitcomb, M. E. Coan, and J. G. Tully. 1981. Direct isolation in cell-free medium of a spiroplasma from *Haemaphysalis leporispalustris* (Acari: Ixodidae) in Maryland. *Current Microbiology* 5:339-342.

**Keyword:** *Haemaphysalis leporispalustris*, Rabbit Tick, Cottontail Rabbits, *Sylvilagus floridanus*, *Ixodes dentatus*, Spiroplasma

**Note:** Ticks identified as *Haemaphysalis leporispalustris* and *Ixodes dentatus* were removed from four adult cottontail rabbits (*Sylvilagus floridanus*) at PWRC.

Stromborg K. L., C. E. Grue, J. D. Nichols, G. R. Hepp, J. E. Hines, and H. C. Bourne. 1988. Postfledging survival of European starlings exposed as nestlings to an organophosphorus insecticide. *Ecology* 69(3):590-601.

**Keyword:** Dicrotophos, European Starling, Insecticide, Jolly-Seber Model, Capture Recapture Studies, Organophosphate, *Sturnus vulgaris*, Survival

**Note:** Nestling of wild European starlings were obtained from wooden nest boxes at PWRC.

Tarshis I. B. 1968. Use of fabrics in streams to collect blackfly larvae. *Annals of the Entomological Society of America* 61(4):960-961.

**Keyword:** Blackfly, Simuliidae, Trapping

**Note:** Method was tested in Snowden Pond outflow.

Tarshis I. B. 1973. Studies on the collection, rearing, and biology of the blackfly (*Cnephia ornithophilia*). U.S. Fish and Wildlife Service, Special Scientific Report--Wildlife No. 165. iv, 16 pp.

**Keyword:** Blackfly, *Nephia ornithophilia*, Cultivation, Vector, Leucocytozoon  
**Note:** 9-96 lg. This citation is also in the PWRC author bibliography.

Tarshis I. B. and J. N. Stult. 1970. Two species of Simuliidae (Diptera), *Cnephia ornithophilia* and *Prosimulium vernale*, from Maryland. Annals of the Entomological Society of America 63(2):587-590.

**Keyword:** Blackfly, Simuliidae, *Cnephia ornithophilia*, *Prosimulium vernale*, Habitat  
**Note:** Two species of blackflies captured at Patuxent represent first records for Maryland.

Tennessee K. L. 1994. Description of the nymph of *Epitheca* (Tetragoneuria) *spinosa* (Hagen)(Odonata: Corduliidae). Bulletin of American Odonatology 2(2):15-19.

**Keyword:** Odonata, Morphology  
**Note:** Based in part from specimens collected at PWRC.

Thompson P. H. 1967. Tabanidae of Maryland. Transactions of the American Entomological Society 93:463-519.

**Keyword:** Tabanidae/ Composition/ Distribution  
**Note:** Collection made at PWRC.

Thompson P. H. 1970. Tabanidae (Diptera) of Patuxent Wildlife Research Center, Laurel, Maryland. Annual Entomological Society of America 63:572-576.

**Keyword:** Tabanidae, Taxonomy, Phenology, Population  
**Note:** Total 40 species of Tabanidae were identified at PWRC.

Thompson P. H. 1971. Larval Tabanidae (Diptera) of the Patuxent Wildlife Research Center, Laurel, Maryland. Annual Entomological Society of America 63:572-576.

**Keyword:** Tabanidae, Taxonomy, Habitat  
**Note :** Habits and habitats of larvae of 11 species described.

Thompson P. H. 1972. Tabanidae of Patuxent Wildlife Research Center, Laurel, Maryland. The second year. Proceedings of the Entomological Society of Washington 74:188-192.

**Keyword:** Tabanidae, Abundance, Phenogram  
**Note:** A follow-up on Thompson (1970); there more species recorded.

Tsai C. 1968. Effects of chlorinated sewage effluents on fishes in upper Patuxent River, Maryland. Chesapeake Science 9:83-93.

**Keyword:** Fish, Pollution, Sewage, Toxicology, Water Quality, Diversity

**Note:** Includes samples taken at the Duval bridge and comparison with collections made there in 1945.

Uhler F. M. 1955. Waterfowl management in unfavorable site. 3 pages *in* Proceedings of the Northeast Section of the Wildlife Society, American Fisheries Society, Conservation Law Enforcement Chiefs, Fish, Game & Conservation Commissioners. Atlantic City, NJ. Various pagings.

**Keyword:** Impoundment, Waterfowl, Habitat Management

**Note:** Impoundment studies at PWRC summarized.

Uhler F. M. 1956. New habitats for waterfowl. Transactions of the North American Wildlife and Natural Resources Conference 21:453-469.

**Keyword:** Impoundment, Waterfowl, Habitat Management

**Note:** Impoundment studies and utilization of Patuxent impoundment by waterfowl summarized.

Uhler F. M. and L. M. Llewellyn. 1952. Fur productivity of submarginal farmland. Journal of Wildlife Management 16(1):79-86.

**Keyword:** Trapping, Fur Productivity, Wildlife Management

**Note:** A three-year trapping effort on the PWRC yielded 392 marketable pelts.

Van Velzen W. T. 1967. First observed brown creeper nest in Maryland. Maryland Birdlife 23(3):68-69.

**Keyword:** Brown Creeper, *Certhia familiaris*, Nesting

**Note:** Includes some observations of the species from PWRC.

Walton B. C., P. M. Bauman, L. S. Diamond, and C. M. Herman. 1958. The isolation and identification of *Trypanosoma cruzi* from raccoons in Maryland. American Journal of Tropical Medicine and Hygiene 7(6):603-610.

**Keyword:** Raccoon, *Procyon lotor*, *Trypanosoma cruzi*, Parasites, Pathohistology

**Note:** Three juvenile raccoons were live-trapped from PWRC.



Walton W. E., S. M. Compton, J. D. Allan, and R. E. Daniels. 1982. The effect of acid stress on survivorship and reproduction of *Daphnia pulex* (Crustacea: Cladocera). *Canadian Journal of Zoology* 60:573-579.

**Keyword:** *Daphnia pulex*, Survival, Reproduction, Acidity, Stress

**Note:** Colonies grown and tests conducted in water from Snowden Pond.

Warbach O. 1953. Control of Japanese honeysuckle in wildlife borders. *Journal of Wildlife Management* 17(3):301-304.

**Keyword:** Japanese honeysuckle, *Lonicera japonica*, Herbicide, Control

**Note:** Control experiments of herbicide spraying on Japanese honeysuckle (*Lonicera japonica*) conducted at PWRC.

Warbach O. 1958. Bird populations in relation to changes in land use. *Journal of Wildlife Management* 22(1):23-28.

**Keyword:** Population, Land Use, Breeding Bird

**Note:** Results of farm wildlife experiments.

Webster C. G. and F. B. McGilvrey. 1966. Providing brood habitat for wood ducks. Pages 70-74 in *Wood Duck Management and Research: A Symposium*, Wildlife Management Institute, Washington, DC. 211 pp.

**Keyword:** Wood Duck, *Aix sponsa*, Waterfowl Management, Habitat Use

**Note:** Observation of wood duck brood use of experimental plantings in the Patuxent impoundments.

Wetmore P. W. 1941. Blood parasites of the District of Columbia and Patuxent Refuge vicinity. *Journal of Parasitology* 27(5):379-393.

**Keyword:** Parasites, Pathogenicity, Distribution

**Note:** A total of 618 birds, comprising 23 families and 53 species, were examined. Of these, 188 were parasitized with from one to five types of parasites, a total of 268 infections in all birds.

Williamson P. 1971. Feeding ecology of the red-eyed vireo (*Vireo olivaceus*) and associated foliage-gleaning birds. *Ecological Monographs* 41(2): 129-152.

**Keyword:** Red-eyed Vireo, *Vireo olivaceus*, Feeding, Niche-Exploitation

**Note:** PWRC served as principal study area. Observations of foraging behavior of red-

eyed and yellow-throated vireos and their associates were reported.

Winslow D. J., D. L. Price, R. C. Neafie, and C. M. Herman. 1966. Trichinosis in Maryland raccoons. *Bulletin of the Wildlife Disease Association* 2(3):81-82.

**Keyword:** Raccoon, Trichinosis, *Procyon lotor*

**Note:** Raccoons were captured in the vicinity of PWRC or from the adjacent Beltsville Agricultural Research Center.

Wirth W. W. and W. L. Grogan, Jr. 1979. Natural history of Plummers Island, Maryland. XXIV. Biting midges (Diptera: Ceratopogonidae) 2. The species of the tribes Heterinyiini and Sphaeromiini. *Proceedings of the Biological Society of Washington* 91:847-903.

**Keyword:** Biting midges, Diptera, Heterinyiini, Sphaeromiini, Taxonomy

**Note:** Some field collections made at PWRC.

Wirth W. W., N. C. Ratanaowrabhan, and D. H. Messersmith. 1977. Natural history of Plummers Island, Maryland. XXII. Biting midges (Diptera: Ceratopogonidae). 1. Introduction and key to genera. *Proceedings of the Biological Society of Washington* 90 (3):615-647.

**Keyword:** Biting Midges, Diptera, Ceratopogonidae, Taxonomy, Morphology

**Note:** Some field collections made at PWRC.

Wise D. H. 1979. Effects of an experimental increase in prey abundance upon the reproductive rates of two orb-weaving spider species (*Araneae: Araneidae*). *Oecologia (Berl.)* 41: 289-300.

**Keyword:** Spider, *Mecynogea lemniscata*, *Mecynogea labyrinthea*, Reproduction, Survival, Predator-Prey Interaction

**Note:** Studies conducted on a portion of Patuxent South Tract.

Wise D. H. 1981. Inter- and Intraspecific effects of density manipulations upon females of two orb-weaving spiders (*Araneae: Araneidae*). *Oecologia (Berl.)* 48: 252-256.

**Keyword:** Spider, *Mecynogea lemniscata*, *Metepeira labyrinthea*, Competition, Survival, Reproduction

**Note:** Experiments performed in deciduous-pine forest on South Tract.

Wise D. H. 1982. Predation by a commensal spider, *Argyrodes trigonum*, upon its host: an experimental study. *Journal of Arachnology* 10: 111-116.

**Keyword:** Spider, *Argyrodes trigonum*, Predation, Commensal

**Note:** Field experiments performed in deciduous-pine forest on South Tract.

Wise D. H. 1983. Competitive mechanisms in a food-limited species: relative importance of interference and exploitative interactions among labyrinth spiders (*Araneae: Araneidae*). *Oecologia* (Berlin) 58: 1-9.

**Keyword:** Spider, *Metepeira labyrinthea*, Competition, Resource Limitation

**Note:** Field experiments conducted in deciduous-pine forest on South Tract of PWRC.

Wise D. H. 1983. Variable life history of the filmy dome spider. Pages 330-331. *In* W.G. Eberhard, Y. D. Lubin and B.C. Robinson, editors. Proceedings of the Ninth International Conference of Arachnology, Panama 1983. Smithsonian Institution, Washington, DC. 333 pp.

**Keyword:** Filmy Dome Spider, *Neriene radiata*, Life History Traits, Genetic Variation

**Note:** Seasonal changes in size structure observed and field experiments performed at PWRC.

Wise D. H. 1984. Phenology and life history of the filmy dome spider (*Araneae: Linyphiidae*) in two local Maryland populations. *PSYCHE* 91: 267-288.

**Keyword:** Spider, *Neriene radiata*, Life History, Phenology

**Note:** PWRC served as one study area.

Wise D. H. 1984. The role of competition in spider communities: insights from field experiments with a model organism. Pages 42-53. *In* D.R. Strong, Jr., D. Simberloff, L.G. Abele, and A.B. Thistle, editors. *Ecological communities: conceptual issues and the evidence*. Princeton University Press. xiii + 613 pp.

**Keyword:** Spider, Competition, Community, Resource Limitation

**Note:** Field experiments reviewed, summarized, and interpreted.

Wise D. H. 1987. Rearing studies with a spider exhibiting a variable phenology: no evidence of substantial genetic variation. *Bull. Br. Arachnological Society* 7(4): 107-110.

**Keyword:** Spider, *Neriene radiata*, Phenology, Genetic Polymorphism

**Note:** Field experiments were conducted on PWRC.

Wise D. H. and Barata J.L. 1983. Prey of two syntopic spiders with different web structures.

Journal of Arachnology 11: 271-281.

**Keyword:** Spider, *Mecynogea lemniscata*, *Metepeira labyrinthea*, Competition

**Note:** The exploitative competition for prey between syntopic spiders, *Mecynogea lemniscata* and *Metepeira labyrinthea*, were studied on three different areas of PWRC.

Zeve V. H., D. L. Price, and C. M. Herman. 1966. Electron microscope study of *Sarcocystis* sp. Experimental Parasitology 18(3):338-346.

**Keyword:** Parasites, *Sarcocystis*, Grackles, *Quiscalus quisula*, Electromicroscope

**Note:** Some infected grackles (*Quiscalus quisula*) were obtained from PWRC.

## Species Index

|   |                    |
|---|--------------------|
| <i>Acer rubrum</i> .....                | 8                  |
| <i>Agelaius pboenieu</i> s .....        | 10                 |
| <i>Agelaius phoeniceus</i> .....        | 9, 24, 25, 26      |
| <i>Aix sponsa</i> .....                 | 14, 15, 23, 24, 48 |
| Algae .....                             | 27                 |
| <i>Allolobophora chlorotica</i> .....   | 3                  |
| <i>Ambystoma maculatum</i> .....        | 1                  |
| American Dog Ticks .....                | 5                  |
| <i>Anas platyrhynchos</i> .....         | 28                 |
| Anisoptera .....                        | 29                 |
| <i>Anopheles quadrimaculatus</i> .....  | 15                 |
| <i>Aporrectodea trapezoides</i> .....   | 3                  |
| <i>Aporrectodea turgida</i> .....       | 3                  |
| Aquatic Insects .....                   | 16                 |
| Aquatic Invertebrates .....             | 1                  |
| Aquatic Plants .....                    | 1                  |
| <i>Argyrod</i> es <i>trigonum</i> ..... | 19, 49             |
| <i>Arisaema triphyllum</i> .....        | 4                  |
| Asclepiadaceae .....                    | 10                 |
| Asclepias .....                         | 10                 |
| Ascomycetes .....                       | 38                 |
| <i>Aspergillus fumigatus</i> .....      | 30                 |
| Bald Eagle .....                        | 4                  |
| Barn Swallow .....                      | 28                 |
| Belostomatidae .....                    | 11                 |
| Benthic Macroinvertebrate .....         | 36                 |
| Biting Midges .....                     | 49                 |
| Black Fly .....                         | 45                 |
| Black Rate Snake .....                  | 44                 |
| Blackfly .....                          | 45                 |
| Blacklegged Tick .....                  | 6                  |
| Bluegill .....                          | 23                 |
| <i>Bombycilla cedrorum</i> .....        | 37                 |
| <i>Boyaia colini</i> .....              | 7                  |
| <i>Boyaia sturnellae</i> .....          | 7                  |
| <i>Branta canadensis</i> .....          | 26, 36             |
| <i>Branta canadensis interior</i> ..... | 13                 |
| Breeding Bird .....                     | 35, 48             |
| Breeding Birds .....                    | 8, 34, 35, 36      |
| Breedling Bird .....                    | 35                 |
| Brown Creeper .....                     | 47                 |
| Bufo .....                              | 13                 |
| Bullfrog .....                          | 4                  |
| <i>Buteo lineatus</i> .....             | 13, 37             |
| <i>Buteo lineatus lineatus</i> .....    | 40                 |
| Canada Goose .....                      | 13, 26, 36         |

|                                   |  |
|-----------------------------------|--|
| Cardinal                          | 7                                      |
| Carolina Wren                     | 31                                     |
| Cedar Waxwing                     | 37                                     |
| Celithemis martha                 | 29                                     |
| <i>Celithemis ornata</i>          | 29                                     |
| Cerambycidae                      | 10                                     |
| Ceratopogonidae                   | 49                                     |
| <i>Certhia familiaris</i>         | 47                                     |
| <i>Chelydra serpentina</i>        | 1                                      |
| Chinchillas                       | 2                                      |
| <i>Chrysemys picta picta</i>      | 11                                     |
| Cicadas                           | 6                                      |
| <i>Cnephia ornithophilia</i>      | 45                                     |
| <i>Coccothraustes vespertinus</i> | 33                                     |
| Collembola                        | 30                                     |
| <i>Columba livia</i>              | 18, 19                                 |
| Common Grackle                    | 7                                      |
| Common grackles                   | 12                                     |
| Common Loon                       | 30                                     |
| Cornus Florida                    | 8                                      |
| Cottontail Rabbit                 | 15, 16                                 |
| Cottontail rabbits                | 7, 45                                  |
| Cow Bird                          | 9                                      |
| <i>Culiseta melanura</i>          | 5, 8, 30                               |
| Damselfly                         | 29                                     |
| <i>Daphnia pulex</i>              | 47                                     |
| Deer Mouse                        | 21, 41                                 |
| <i>Dendrocopos borealis</i>       | 25                                     |
| <i>Dermacentor variabilis</i>     | 5                                      |
| <i>Didelphis marsupialis</i>      | 21                                     |
| Diptera                           | 41, 49                                 |
| <i>Dirofilaria uniformis</i>      | 32                                     |
| Domestic Pigeon                   | 18, 19                                 |
| Dragonfly                         | 29                                     |
| Earthworms                        | 3, 11                                  |
| Eastern Box Turtle                | 13, 42, 43, 44                         |
| Eastern Equine Encephalitis       | 4, 5, 8, 14                            |
| Eastern Equine Encephalomyelitis  | 30                                     |
| Eastern Hognose Snake             | 17                                     |
| Eastern Painted Turtle            | 11                                     |
| Eastern Tent Caterpillars         | 3, 36                                  |
| Eisenoides                        | 3                                      |
| <i>Elaphe o. obsoleta</i>         | 44                                     |
| <i>Endophragma australiensis</i>  | 39                                     |
| <i>Euphagus carolinus</i>         | 22                                     |
| European starling                 | 10, 11, 12, 15, 19, 24, 26, 32, 33, 45 |
| <i>Eurytrema procyonis</i>        | 14                                     |

|                                       |            |
|---------------------------------------|------------|
| Evening Grosbeak                      | 33         |
| <i>Fagus grandifolia</i>              | 20         |
| Ferret                                | 18         |
| Filarial Worm                         | 32         |
| Fish                                  | 9, 23, 46  |
| Flora                                 | 16         |
| Flowering Dogwood                     | 8          |
| Fox Sparrow                           | 37         |
| Foxes                                 | 2          |
| Frog                                  | 13         |
| Fungi                                 | 38, 39     |
| Fungi                                 | 38         |
| <i>Gavia immer</i>                    | 30         |
| <i>Geothlypis trichas</i>             | 22         |
| Grackles                              | 50         |
| Gray Mice                             | 27         |
| Gray Squirrel                         | 14, 15, 32 |
| green frog                            | 4, 13      |
| <i>Grus americana</i>                 | 8          |
| <i>Haemaphysalis leporispalustris</i> | 7, 45      |
| <i>Haliaeetus leucocephalus</i>       | 4          |
| Harris' Sparrow                       | 37         |
| <i>Heptachlor expoxide</i>            | 3          |
| <i>Heterodon p. platyrhinos</i>       | 17         |
| Hirundo rustica                       | 28         |
| Hooded Merganser                      | 23         |
| House Sparrows                        | 4          |
| <i>Hylocichla mustelina</i>           | 9          |
| <i>Ixodes brunneus</i>                | 7, 27      |
| <i>Ixodes dentatus</i>                | 7, 27, 45  |
| <i>Ixodes scapularis</i>              | 6          |
| Ixodidae                              | 5          |
| Jack-in-the-pulpit                    | 4          |
| Japanese honeysuckle                  | 47         |
| King Rail                             | 25         |
| Largemouth Bass                       | 23         |
| Lily Planthopper                      | 37         |
| <i>Liriodendron tulipifera</i>        | 20         |
| Little Brown Bats                     | 6          |
| <i>Lonicera japonica</i>              | 47         |
| <i>Lophodytes cucullatus</i>          | 23         |
| <i>Lumbricus terrestris</i>           | 3, 11      |
| <i>Macromia georgina</i>              | 9          |
| <i>Macromia illinoiensis</i>          | 9          |
| Magickicada                           | 6          |
| <i>Malacosoma americanum</i>          | 3, 36      |
| Mammal                                | 32         |

|   |                                   |
|---|-----------------------------------|
| Mammals                                   | 32                                |
| Meadow Vole                               | 5, 16, 17, 31                     |
| <i>Mecynogea labyrinthea</i>              | 49                                |
| <i>Mecynogea lemniscata</i>               | 49, 50                            |
| <i>Megamelus davisii</i>                  | 37                                |
| <i>Metepeira labyrinthea</i>              | 19, 49, 50                        |
| Microtus                                  | 5                                 |
| <i>Microtus pennsylvanicus</i>            | 5, 16, 17, 31                     |
| Milkweed                                  | 10                                |
| Minks                                     | 2                                 |
| Mites                                     | 9                                 |
| Mosquito                                  | 30                                |
| Mosquitoes                                | 15                                |
| Moths                                     | 3                                 |
| Mourning Dove                             | 7, 11, 14, 18, 19, 22, 25, 28     |
| Multiflora Rose                           | 37                                |
| <i>Mus musculus</i>                       | 27                                |
| Muskrats                                  | 2                                 |
| Mymaridae                                 | 37                                |
| <i>Myotis lucifugus</i>                   | 6                                 |
| Nasal Mites                               | 7                                 |
| Neotropical Birds                         | 34                                |
| <i>Nephia ornithophilia</i>               | 45                                |
| <i>Neriere radiata</i>                    | 19, 50                            |
| Northern Bobwhite                         | 15                                |
| <i>Odocoileus virginianus</i>             | 1, 38                             |
| Odonata                                   | 9, 29, 30, 46                     |
| Omyomymar                                 | 37                                |
| Opossum                                   | 21                                |
| <i>Parus bicolor</i>                      | 28                                |
| <i>Passer domesticus</i>                  | 4                                 |
| <i>Passerella iliaca</i>                  | 37                                |
| Peromyscus                                | 28                                |
| <i>Peromyscus leucopus</i>                | 9, 28, 41, 42, 43                 |
| <i>Peromyscus leucopus noveboracensis</i> | 21                                |
| <i>Peromyscus maiculatus</i>              | 44                                |
| Phytoplankton                             | 1                                 |
| <i>Pipilo erythrophthalmus</i>            | 7                                 |
| <i>Plasmodium relictum</i>                | 7                                 |
| <i>Polynema ema</i>                       | 37                                |
| <i>Porzana carolina</i>                   | 25                                |
| Prairie Deer Mouse                        | 44                                |
| <i>Procyon lotor</i>                      | 6, 14, 15, 16, 18, 21, 32, 47, 48 |
| <i>Procyotrema marsupiformis</i>          | 22                                |
| <i>Prolinyphia marginata</i>              | 23                                |
| <i>Prosimulium vernale</i>                | 45                                |
| <i>Prunus serotina</i>                    | 3                                 |



|   |                                       |
|---|---------------------------------------|
| <i>Quercus alba</i> . . . . .             | 8                                     |
| <i>Quiscalus quiscula</i> . . . . .       | 7, 12                                 |
| <i>Quiscalus quisula</i> . . . . .        | 50                                    |
| Rabbit Tick . . . . .                     | 45                                    |
| Rabbits . . . . .                         | 2                                     |
| Raccoon . . . . .                         | 6, 14, 15, 16, 18, 21, 22, 32, 47, 48 |
| <i>Rallus elegans</i> . . . . .           | 25                                    |
| <i>Rana catesbeiana</i> . . . . .         | 4, 13                                 |
| <i>Rana clamitans</i> . . . . .           | 4                                     |
| Red Maple . . . . .                       | 8                                     |
| Red-cockaded Woodpecker . . . . .         | 25                                    |
| Red-eyed Vireo . . . . .                  | 48                                    |
| Red-shouldered Hawk . . . . .             | 13, 37, 40                            |
| Red-winged Blackbird . . . . .            | 9, 10, 24, 25, 26                     |
| <i>Richmondia cardinalis</i> . . . . .    | 7                                     |
| <i>Rickettsia rickettsii</i> . . . . .    | 7                                     |
| <i>Rosa multiflora</i> . . . . .          | 37                                    |
| Roundleaf Greenbrier . . . . .            | 8                                     |
| Rusty Blackbird . . . . .                 | 22                                    |
| <i>Salmonella typhimurium</i> . . . . .   | 19                                    |
| Sassafras . . . . .                       | 24                                    |
| <i>Schistosoma mansoni</i> . . . . .      | 4                                     |
| <i>Sciurus carolinensis</i> . . . . .     | 14, 15, 16, 32                        |
| Screen Owl . . . . .                      | 3                                     |
| Simuliidae . . . . .                      | 45                                    |
| <i>Smilax rotundifolia</i> . . . . .      | 8                                     |
| Snake . . . . .                           | 44                                    |
| Snapping Turtle . . . . .                 | 1                                     |
| Songbirds . . . . .                       | 26, 33, 34                            |
| Sora . . . . .                            | 25                                    |
| <i>Speleognathidae sciuri</i> . . . . .   | 7                                     |
| <i>Speleognathus womersleyi</i> . . . . . | 7                                     |
| Spider . . . . .                          | 19, 49, 50                            |
| Spotted Salamander . . . . .              | 1                                     |
| Squirrel . . . . .                        | 16                                    |
| <i>Storeria dekayi dekayi</i> . . . . .   | 17                                    |
| <i>Sturnus vulgaris</i> . . . . .         | 10, 11, 12, 19, 24, 26, 33, 45        |
| <i>Sylvilagus floridanus</i> . . . . .    | 7, 15, 16, 32, 45                     |
| Tabanidae . . . . .                       | 46                                    |
| <i>Terrapene c. carolina</i> . . . . .    | 13, 42, 43, 44                        |
| Tetraopes . . . . .                       | 10                                    |
| <i>Thryothorus ludovicianus</i> . . . . . | 31                                    |
| Tick . . . . .                            | 7, 9, 27                              |
| Towhee . . . . .                          | 7                                     |
| <i>Trichomonad gallinae</i> . . . . .     | 22                                    |
| <i>Trypanosoma cruzi</i> . . . . .        | 6, 47                                 |
| Tufted Titmouse . . . . .                 | 28                                    |

|                                      |                    |
|--------------------------------------|--------------------|
| Vegetation                           | 31, 33, 37, 44     |
| <i>Vireo olivaceus</i>               | 48                 |
| Waterfowl                            | 47                 |
| White Oak                            | 8                  |
| White-tailed deer                    | 1, 38              |
| Whooping Cranes                      | 5                  |
| <i>Wilsonia pusilla</i>              | 22                 |
| Winter Bird                          | 35                 |
| Wood Duck                            | 14, 15, 23, 24, 48 |
| Wood Mice                            | 9                  |
| Wood Mouse                           | 41, 42, 43         |
| Wood thrushes                        | 9                  |
| Woodcock                             | 40                 |
| Woodpecker                           | 17, 27             |
| <i>Xanthocephalus xanthocephalus</i> | 24                 |
| Yellow Warbler                       | 22                 |
| Yellow-headed Blackbird              | 24, 25             |
| Yellowthroat                         | 22                 |
| <i>Zenaida macroura</i>              | 7, 11, 14, 19, 28  |
| <i>Zonotrichia querula</i>           | 37                 |
| Zooplankton                          | 1, 20              |
| Zygoptera                            | 29                 |