

## CURRICULUM VITAE

**NAME** Donald W. Sparling

**CURRENT EMPLOYMENT** Associate Director, Cooperative Wildlife Research Laboratory and Associate Professor, Zoology Department, Southern Illinois University, Carbondale, IL

### EDUCATION

B.S. Southern Illinois University, Carbondale. Major: Zoology Minor: Chemistry. Dates: 1967-1971

M.A. Southern Illinois University, Carbondale. Major: Zoology, Minor: Psychology. Dates: 1971-1974

Ph.D. University of North Dakota, Grand Forks. Major: Biology. 1974-1979.

### PROFESSIONAL EXPERIENCE

**CURRENT** (From January 2004):

**Associate Director of the Cooperative Wildlife Research Laboratory and Associate Professor of Zoology**, Southern Illinois University, Carbondale, IL

### PREVIOUS PROFESSIONAL POSITIONS

From: 1987 To: 1/2004

**Research Biologist (retired)**, US Geological Survey (formerly U.S. Fish and Wildlife Service and National Biological Survey) Patuxent Wildlife Research Center, Laurel, MD

From: 1990 To: 1995

**Adjunct Professor**, Department of Biology, Prince Georges Community College, Largo, MD.

From: 1986 To: 1987

**Field Station Leader**, Hawaii Field Station, Patuxent Wildlife Research Center, USFWS.

From: 1982 To: 1986

**Statistician** , Northern Prairie Wildlife Research Center, Jamestown, ND (USFWS).

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From: 1979 To: 1982

**Assistant Professor**, Department of Biology, Ball State University, Muncie, IN.

From: 1978 To: 1979

**Acting Assistant Director**, Cooperative Wildlife Laboratory, actual job title; Researcher (75%) and Lecturer (25%), Department of Zoology, Southern Illinois University, Carbondale.

## **RECENT TECHNICAL PRESENTATIONS**

- Sparling, DW. 2004. Effects of perchlorate on metamorphosis in southern leopard frogs. Invited talk, Annual DODEC meeting, US Geological Survey, April 4-7, Biloxi, MS.
- Sparling, DW. 2004. Effects of sediment lead on southern leopard frogs. Illinois Wildlife Society Meeting, March 10-13, Mt. Vernon, IL.
- Sparling, DW, Ortiz-Santaliestra, M. and Krest S. 2004. Effects of sediment lead on southern leopard frogs. 4<sup>th</sup> World Conference, Soc. Environ. Toxicol. Chem., Nov. 23-27, Portland, OR.
- Sparling, DW, Fellers G. and Kleeman, P. 2004. Comparative sensitivity of Pacific treefrogs and foothills yellow-legged frogs to endosulfan and chlorpyrifos. 4<sup>th</sup> World Conference, Soc. Environ. Toxicol. Chem. Nov. 23-27, Portland, OR.
- Sparling, DW., Pease A. and Miller L. 2004. Amphibians and risk assessment at Beltsville Agriculture Research Center, MD, USA. 4<sup>th</sup> World Conf. Soc. Environ. Toxicol. Chem., Nov. 23-27, Portland, OR.
- Sparling, D.W. 2005. What roles do contaminants have in the decline of amphibian populations? **Keynote speaker**, Mid South Regional Chapter SETAC, Point of Nature, Carbondale, IL May 2005. Platform.
- Cole, B., D. Sparling, J. Roseberry and C. Nielsen. 2005. Evaluating the potential for CRP to improve bobwhite habitat in Wayne, County, Illinois. 11<sup>th</sup> Annual Southeast Quail Study Group Meeting, August 14-17, 2005. Gilbertsville, KY. Poster
- Osborne, D., D. Sparling and J. Cole. 2005. Responses of northern bobwhite, vegetation and invertebrates to three methods of renovating monotypic CRP grasslands in southcentral Illinois. 11<sup>th</sup> Annual Southeast Quail Study Group Meeting, August 14-17, 2005. Gilbertsville, KY. Poster
- Sparling, D.W. 2005. Toxicity of endosulfan and chlorpyrifos to two species of amphibians from the Sierra Nevada Mountains, California. 12<sup>th</sup> Annual Conference, Wildlife Society, 25-29 September. Madison, WS. Poster.
- Cowman, D.F., D.W. Sparling, G.M. Fellers, J.W. Bickham, L.L. McConnell, T.E. Lacher. 2005. Pesticides and frog declines in the Sierra Nevada Mountains, California. 12<sup>th</sup> Annual Conference, Wildlife Society, 25-29 September. Madison, WS. Poster.
- Cowman, D.F., D.W. Sparling, G.M. Fellers and T.E. Lacher. 2005. Cholinesterase

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inhibition in metamorphs and tadpoles in the Sierra Nevada Mountains, California. 26<sup>th</sup> Annual Meeting, SETAC, 13-17 November, Baltimore, MD. Platform.

Sparling, D.W. and J. Hunt. 2005. Effects of ultra low concentrations of endosulfan on California amphibians. 26<sup>th</sup> Annual Meeting, SETAC, 13-17 November, Baltimore, MD. Platform.

Sparling, D.W. 2005. Results of Glypro® exposure to red-eared sliders. 26<sup>th</sup> Annual Meeting, SETAC, 13-17 November, Baltimore, MD. Platform.

Biderman T.F., L. Drakeford, L.L. McConnell, G. Fellers, D.W. Sparling, D. Cowman. 2005. Investigating pesticide exposure pathways in amphibian habitat of the Sierra Nevada Mountains 26<sup>th</sup> Annual Meeting, SETAC, 13-17 November, Baltimore, MD. Platform.

Sparling, D.W. 2006. So what's happening in amphibian and reptile ecotoxicology? Annual Meeting, Mid South Chapter of SETAC, 25-27 May, Fayetteville AR, Platform

Hunt, J. and D.W. Sparling. 2006. Ultralow exposures of chlorpyrifos and endosulfan to *Bufo boreas* and *Hyla regilla*. Annual Meeting Mid South Chapter of SETAC, 25-27 May 2006.

Osborne, D.C., D. Sparling, J. Cole, and D. Howell. Response of northern bobwhite, vegetation, and arthropods to mid- contract management of CRP grasslands in Southcentral Illinois. Gamebirds 2006. Athens, GA, May 31-June 2, 2006.

Cole, B., D. Sparling, C. Nielsen, and J. Roseberry. 2006. Assessing the economic feasibility of CRP to improve northern bobwhite quail (*Colinus virginianus*) abundance in Illinois. Presented at Gamebirds 2006: A joint conference of Quail VI and Perdix XII, Athens, GA, USA. (Cole presenter)

Cole, B., D. Sparling, J. Roseberry, and C. Nielsen. 2006. Evaluating the potential for CRP to improve bobwhite habitat in Wayne County, Illinois. Presented at the 42nd Annual Illinois Chapter of The Wildlife Society Meeting, Whittington, IL, USA. (Cole presenter)

Cole, B., D. Sparling, J. Roseberry, and C. Nielsen. 2006. Evaluating the potential for CRP to increase bobwhite quail abundance in Illinois. Presented at the 67th Midwest Fish and Wildlife Conference, Omaha, NE, USA. (Cole presenter)

Hunt, J., D. Sparling. 2006. The effects of ultra low levels of endosulfan on the Western Toad (*Bufo boreas*) and the Pacific Tree frog (*Pseudacris regilla*). Presented at the 27th Annual Meeting, SETAC, Montreal, Quebec, Canada.

Sparling, D. 2006. So what's happening in amphibian and reptile ecotoxicology? Presented at the 27th Annual Meeting, SETAC. Montreal, Quebec, Canada.

- Sparling, D. 2007. Extreme toxicity of endosulfan and chlorpyrifos to California amphibians. Understanding Agriculture's Effects on Amphibians and Reptiles in a Changing World. February 6-8. St. Louis, MO.
- Sparling, D. and M. Ortiz-Santaliestra. 2007. Alteration of larval development and metamorphosis in *Rana sphenocephala* by nitrate and perchlorate, two commonly occurring chemicals in fertilizers. Understanding Agriculture's Effects on Amphibians and Reptiles in a Changing World. February 6-8. St. Louis, MO.
- Bradford, D.F., E.M. Heithmar, K. Stanley, L.L. McConnell, D.W. Sparling, S.L. Simonich et al. 2007. Temporal and spatial patterns of airborne pesticides in the alpine environment of a declining California amphibian, the mountain yellow-legged frog. Understanding Agriculture's Effects on Amphibians and Reptiles in a Changing World. February 6-8. St. Louis, MO.

## **PRESENT UNIVERSITY INVOLVEMENT**

### **Successful Theses and Dissertations**

- Fluetsch, K.M. 1992. A comparison of the nesting success of mourning doves and American robins in conventionally managed and organic orchards. University of Maryland, College Park, MD. Master's thesis (Co-advisor)
- Karouna-Renier, N.K. 1995. An assessment of contaminant toxicity to aquatic macroinvertebrates in urban stormwater treatment ponds. University of Maryland, Baltimore Campus. Master's thesis (Co-advisor)
- Beetham, M.E. 1995. The effects of acidification and aluminum on heterotrophic bacterioplankton populations in freshwater ponds. University of Maryland, College Park. Master's thesis. (Committee member)
- Eisemann, J. 1997. Stormwater treatment ponds as nesting habitat for urban birds. University of Maryland College Park. Master's thesis. (Co-advisor)
- Vann, S.L. 1997. The effects of white phosphorus on mallard reproduction. University of Maryland College Park. Master's thesis. (Co-advisor)
- Mazanti, L. 1999. The effects of herbicide applications on anuran species richness and larval survival in freshwater depressional wetlands under experimental and field conditions. University of Maryland, College Park. Ph.D. dissertation (Committee member).
- Cowman, D. 2005. Pesticides and declining amphibian populations in the Sierra Nevada Mountains, California. Ph.D. dissertation, Texas A&M University (Co-advisor).

### **Current Graduate Students**

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- Bommarito, Thomas. MS. Effects of PAH from coal tar and asphalt sealants on *Eurycea nana* and *Notophthalmus viridescens*, surrogates for *Eurycea sosorum*.
- Cole, Beth. Ph.D. Modeling of mid contract management bobwhite habitat improvement
- Hunt, Jill. MS. Effects of low concentrations of endosulfan on California amphibians.
- Meadows, Cydney. MS. Responses of herpetofauna to prescribed burning in oak hickory forests.
- Mott, Cy. Ph.D. Ecological factors that affect interguild aggression in Ambystomid salamanders.
- Osborne, Doug. Ph.D. Bobwhite, songbird, vegetation and invertebrate responses to three methods of mid contract management of CRP grasslands.
- Osborne, Tiffany. Ph.D. Ecology of Eurasian collared doves and Interspecific interactions with Mourning doves in southern Illinois.
- Weir, Scott. MS. Mercury contamination in wetlands and amphibians as related to coal-fired electrical generating plants in southern Illinois.

## **HONORS, AWARDS, RECOGNITION**

- U.S. Fish and Wildlife Service Special Achievement Award for superior service, 1991.
- U.S. Fish and Wildlife Service Special Achievement Award for superior service, 1993.
- U.S. Fish and Wildlife Service Quality Step Increase for superior performance, 1994.
- National Biological Service Special Achievement Award for superior service, 1995.
- Special Achievement Award, USGS Patuxent Wildlife Research Center for publication of the book *Ecotoxicology of amphibians and reptiles*, 2001.
- Special recognition and plaque from Mid South Regional Chapter, Society of Environmental Contamination and Toxicology. 2006.

## **PUBLICATIONS**

### **A. Peer Reviewed Results of Original Research**

- Sparling, D.W. 1974. Vocalizations and sounds of the Laysan (*Diomedea immutabilis*) and black-footed (*D. nigripes*) albatrosses. M.A. Thesis, Southern Illinois University, Carbondale, IL.

- Sparling, D.W. 1975. Prairie chicken killed by goshawk. *Loon* 47:191-192.
- Sparling, D.W. 1977. Sounds of the Laysan and Black-footed Albatrosses. *Auk* 94:256-269.
- Sparling, D.W., and J.D. Williams. 1978. Multivariate analysis of avian vocalizations. *J. theoret. Biol.* 74:83-107.
- Sparling, D.W. and J.D. Williams. 1978. Response to Martindale. *J. Theoret. Biol.*
- Sparling, D.W. and W.D. Svedarsky. 1978. Responses of prairie grouse to avian and mammalian visitors on display grounds in northwestern Minnesota. *Prairie Natural.* 10:17-22.
- Sparling, D.W. 1979. Communication and reproductive isolating mechanisms in greater prairie chickens and sharp-tailed grouse. Ph.D. Dissertation, University of North Dakota, Grand Forks.
- Sparling, D.W. 1980. Hybridization and taxonomic status of prairie grouse. *Prairie Natural.* 12:92-102.
- Sparling, D.W. 1980. Evidence for vocal learning in prairie grouse. *Wilson Bull.* 91:618-621.
- Sparling, D.W. 1981. Communication in prairie grouse I. Information content and interspecific functions of principal displays. *Behav. Neural. Biol.* 32:463-486.
- Sparling, D.W. 1981. Communication in prairie grouse. II. Ethological isolating mechanisms. *Behav. Neural Biol.* 32:487-503.
- Sparling, D.W. 1983. Quantitative analysis of prairie grouse vocalizations. *Condor* 85:30-42.
- Yaplee, J. and D.W. Sparling. 1984. Proc UTM: Construction of a procedure to convert map coordinates between geodetic and universal transverse mercator system. *SUGI Proceedings: 688-693.* SAS Institute, Cary, NC.
- Sparling, D.W. 1984. Communication and reproductive isolating mechanisms in greater prairie chickens and sharp-tailed grouse. *Natl. Geogr. Res. Repts.* 1976 Proj.:813-821.
- Johnson, D.H., L.M. Cowardin, and D.W. Sparling. 1986. Evaluation of a mallard productivity model. pp. 23-29 IN: Verner, J., M.L. Morrison, and C.J. Ralph (Eds.). *Wildlife 2000: Modeling habitat relationships of terrestrial vertebrates.* Univ. Wisc. Press, Madison.
- Johnson, D.H., D.W. Sparling, and L.M. Cowardin. 1987. A model of the productivity of the mallard duck. *Ecol. Model.* 38:257-275.
- Cowardin, L.M., D.H. Johnson, T.L. Shaffer, and D.W. Sparling. 1988. Applications of a simulation model to decisions in mallard management. *Fish and Wildl. Tech. Rept.* 17. 28 pp. U.S. Fish and Wildl. Serv. Washington, DC.
- Sparling, D.W. 1990. Acid precipitation and food quality: inhibition of growth and survival in black ducks and mallards by dietary aluminum, calcium and phosphorus. *Arch. Environ. Contam. Toxicol.* 19:457-463.
- Sparling, D.W. 1990. Conditioned aversion of aluminum sulfate in black ducks. *Environ. Toxicol. Chem.* 9:479-483.
- Wiemeyer, S.N., and D.W. Sparling. 1991. Acute toxicity of four anticholinesterase

- insecticides to American kestrels, eastern screech-owls, and northern bobwhites. *Environ. Toxicol. Chem.* 10:1139-1148.
- Sparling, D.W. 1991. Acid precipitation and food quality: effects of dietary Al, Ca, and P on bone and liver characteristics in American black ducks and mallards. *Arch. Environ. Contam. Toxicol.* 21:281-288.
- Sparling, D.W., J.A. Barzen, J.R. Lovvorn, and J.R. Serie. 1992. An evaluation of regression methods to estimate nutritional condition of canvasbacks and other waterbirds. *U.S. Fish Wildl. Serv. Biol. Rept.* 3. 11 p.
- Sparling, D.W. and G.L. Krapu. 1994. Communal roosting and foraging behavior of staging sandhill cranes. *Wilson Bull.* 106:62-77.
- Fluetsch, K.M. and D.W. Sparling. 1994. Avian nesting success and diversity in conventionally and organically managed apple orchards. *Environ. Toxicol. Chem.* 13:1651-1659.
- Sparling, D.W., T.P. Lowe, D. Day, and K. Dolan. 1995. Responses of amphibian populations to water and soil factors in experimentally treated aquatic macrocosms. *Arch. Environ. Contam. Toxicol.* 29:455-461.
- Sparling, D.W., and T.P. Lowe. 1995. Metal concentrations of tadpoles in experimental aquatic macrocosms. *Environ. Pollut.* 91:149-159.
- Sparling, D.W., T.P. Lowe, and F. Pinkney. 1997. Toxicity of Abate to Green Frog Tadpoles. *Bull. Environ. Contam. Toxicol.* 58:475-481.
- Karouna-Renier, N.K., and D.W. Sparling. 1997. Toxicity of stormwater treatment pond sediments to *Hyallela azteca* (Amphipoda). *Bull. Environ. Contam. Toxicol.* 58:550-557.
- Sparling, D.W., M. Gustafson, P. Klein, and N. Karouna-Reiter. 1997. Toxicity of white phosphorus to waterfowl: acute exposure in mallards. *J. Wildl. Dis.* 33:187-197.
- Sparling, D.W. and N.E. Federoff. 1997. Secondary poisoning of kestrels by white phosphorus. *Ecotoxicology* 6:239-247
- Teels, B.M. and D.W. Sparling. 1997. Assessing reconstructed depressional wetlands in the Mid-Atlantic states. pp. 30-32. IN: *Proceedings - Wetlands: Biological Assessment Methods and Criteria Development Workshop*, Boulder CO. U.S. EPA Office of Water, Washington, DC.
- Sparling, D.W. and T.P. Lowe. 1998. Metal concentrations in aquatic macrophytes as influenced by soil and acidification. *Water, Air, Soil Pollut.* 108:203-221.
- Sparling, D.W., S. Vann,, and R. Grove. 1998. Blood changes in mallards exposed to white phosphorus. *Environ. Toxicol. Chem.* 17:2521-2529.
- Sparling, D.W. D. Day, and P. Klein. 1999. Acute toxicity and sublethal effects of white phosphorus in mute swans, *Cygnus olor*. *Arch. Environ. Contam. Toxicol.* 36:316-322.
- Pinkney, A.E., P.C. McGowan, D.R. Murphy, T.P. Lowe, D.W. Sparling, and W.H. Merdith 1999. Effects of temephos (Abate® 4E) on fiddler crabs (*Uca pugnax* and *U. minax*) on a Delaware salt marsh. *J. Am. Mosquito Assoc.* 15:321-329.
- Pinkney, A.E., P.C. McGowan, D.R. Murphy, T.P. Lowe, D.W. Sparling, and L.C.

- Ferrington, 2000. Effects of the mosquito larvicides, temephos and methoprene, on insect populations in experimental ponds. *Environ. Toxicol. Chem.* 19:678-684.
- Sparling, D.W. 2000. Effects of Altosid and Abate-4E on deformities and survival in southern leopard frogs under semi-natural conditions. *J Iowa Acad Sci.* 107:90-91.
- Vann, S., D.W. Sparling and M.A. Ottinger. 2000. Effects of white phosphorus on mallard reproduction. *Environ. Toxicol. Chem.* 19:2525-2531
- Karouna-Renier, N. K. and D.W. Sparling. 2001. Relationships between ambient geochemistry, watershed land-use and trace metal concentrations in aquatic invertebrates living in stormwater treatment ponds. *Environ. Pollut.* 112:183-192.
- Sparling, D.W., G. Fellers and L. McConnell. 2001. Pesticides and amphibian population declines in California, USA. *Environ. Toxicol. Chem.* 20:1591-1595.
- Sparling, D.W., G.M. Fellers, and L.L. McConnell. 2001. Pesticides are involved with population declines of amphibians in California Sierra Nevadas. *The Scientific World* 1:200-201.
- Sparling, D.W, Harvey, G. and Nzengung, V. 2003. Interaction between perchlorate and iodine on the metamorphosis of *Hyla versicolor*. Pp. 143-158. In: Linder, G., S. Krest, D. Sparling and E.E. Little (Eds). *Multiple stressor effects in relation to declining amphibian populations*. ASTM E47 Special Technical Publication 1443. ASTM, West Conshohocken, PA.
- Mazanti, L, D.W. Sparling, C. Rice, K. Bialek, C. Stevenson and B. Teels. 2003. Synergistic effects of a combined exposure to herbicides and an insecticide in *Hyla versicolor*. Pp. 111-129. In: Linder, G., S. Krest, D. Sparling and E.E. Little (Eds). *Multiple stressor effects in relation to declining amphibian populations*. ASTM E47 Special Technical Publication 1443. ASTM West Conshohocken, PA.
- Mazanti, L., C. Rice, K. Bialek, D. Sparling, C. Stevenson, W.E. Johnson, P. Kangas, and J. Rheinstein. 2003. Aqueous-phase disappearance of atrazine, metolachlor and chlorpyrifos in laboratory aquaria and outdoor mesocosms. *Arch. Environ. Chem. Toxicol.* 44:67-76.
- Krest, S.K., Linder G. and Sparling, D.W. 2003. The role of multiple stressor causes in declining amphibian populations: a Wingspread workshop summary. Pp. 207-218. In: Linder, G., Krest, S., Sparling, D. and Little E.E. (Eds) *Multiple stressor effects in relation to declining amphibian populations*. ASTM E47 Special Technical Publication 1443. ASTM West Conshohocken, PA.
- Sparling, D.W., J.D. Eisemann and W. Kuenzel. 2004. Contaminant exposure of red-winged blackbirds in stormwater retention ponds. *Environmental Management* 33:719-729.
- Sparling, D.W., and G. Harvey. 2006. Comparative toxicity of ammonium and perchlorate in amphibians. *Bull. Environ. Toxicol. Chem.* 76.
- Sparling, D.W. C. Matson, J. Bickham, P. Doelling-Brown. 2006. Toxicity of glyphosate as Glypro® and LI700 to red-eared slider (*Trachemys scripta elegans*) embryo and early hatchlings. *Environ. Toxicol. Chem.* 25:2768-2774.

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Sparling D.W., S. Krest, M. Ortiz-Santaliestra 2006. Effects of lead-contaminated sediment on *Rana sphenoccephala* tadpoles. *Arch Environ Contam Toxicol* 51: 458-466

Sparling, D.W., J. Eisemann, and W. Kuenzel. 2006. Nesting and foraging behavior of red-winged blackbirds in stormwater wetlands. *Urban Ecosystems* in press.

Sparling, D.W., G. Fellers. Comparative toxicity of chlorpyrifos, diazinon, malathion and their oxon derivatives to larval *Rana boylei*. *Environ. Pollut.* In press.

Casey, RE, JA Simon, S. Stueyi, JW Snodgrass, N. Karouna-Renier, DW Sparling. 2006. Temporal trends of trace metals in sediment and invertebrates from stormwater management ponds. *Water Air Soil Pollution* 178:69-77.

## **B. Peer Reviewed Books, Book Chapters and Major Syntheses**

Sparling, D.W. 1994. Acidic deposition: a review of biological effects. pp 301-329 IN: Hoffman, D.J., B.A. Rattner, G.A. Burton, Jr., and J. Cairns Jr. *Handbook of Ecotoxicology*. Lewis Publ. Boca Raton, FL

Sparling, D.W. and T.P. Lowe. 1996. Environmental hazards of aluminum to plants, invertebrates, fish and wildlife. *Rev. Environ. Contam. Toxicol.* 145:1-127.

Sparling, D.W., T.P. Lowe, and P.G. Campbell. 1997. Ecotoxicology of aluminum to fish and wildlife. pp. 48-68. IN: R.A. Yokel and M.S. Golub (eds.) *Research Issues in Aluminum Toxicology*. Taylor and Francis, Washington, D.C.

Sparling, D.W., Linder, G. and Bishop, C. (eds). *Ecotoxicology of Amphibians and Reptiles*. SETAC Press, Pensacola, FL.

Sparling, D.W. 2000. Ecotoxicology of organic contaminants to amphibians and reptiles. Part A: amphibians. Pp. 461-494. In: Sparling, D.W., Linder, G. and Bishop, C. (eds). *Ecotoxicology of Amphibians and Reptiles*. SETAC Press, Pensacola, FL.

Sparling, D.W., C. Bishop, and G. Linder. 2000. Chapter 1. The Current Status of Amphibian and Reptile Ecotoxicological Research. Pp. 1-14. In: Sparling, D.W., Linder, G, and Bishop, C. (eds) *Ecotoxicology of Amphibians and Reptiles*. SETAC Press, Pensacola, FL.

Sparling, D.W., C. Bishop, B. Pauli, S. Money. 2000. Chapter 15. Epilogue: Lessons yet to be learned. Pp 811-822. In: Sparling, D.W., Linder, G, and Bishop, C. (eds) *Ecotoxicology of Amphibians and Reptiles*. SETAC Press, Pensacola, FL.

Harthill, M., D.W. Sparling, J.P. Sullivan, and H.M. Ohlendorf. 2000. Group C discussions of endpoint selection, study design and extrapolation. pp. 217-224 In: Albers, P. et al. (editors). *Environmental Contaminants in Terrestrial Vertebrates: Effects on Populations, Communities, and Ecosystems*. SETAC Press, Pensacola, FL.

Sparling, D.W. 2003. A review of the role of contaminants in amphibian declines. Pp. 1099-1128 In: Hoffman, D.J., Rattner, B.A., Burton Jr., G.A. and Cairns Jr. J.

- (Eds) Handbook of Ecotoxicology, 2<sup>nd</sup> edition. Lewis Publ., Boca Raton FL.
- Sparling, D.W. 2003. White phosphorus at Eagle River Flats, Alaska: A case history of waterfowl mortality. Pp. 767-786. In: Hoffman, D.J., Rattner, B.A., Burton Jr., G.A. and Cairns Jr. J. (Eds) Handbook of Ecotoxicology, 2<sup>nd</sup> edition. Lewis Publ., Boca Raton FL.
- Sparling, D.W., Richter, K.O., Calhoun, A., Micacchion, M. 2001. Methods for Evaluating Wetland Condition: Using Amphibians in Bioassessments of Wetlands .EPA 822-R-01-0071. U.S Environmental Protection Agency, Office of Water, Washington, DC, 48 pp.
- Sparling, D.W., G. Linder and S. Krest. 2002. Introduction — Amphibian population declines: A multiple stressor phenomenon requiring integrative action. In: Linder, G., D.W., Sparling, and S. Krest. Multiple stressors and declining amphibian populations: evaluating cause and effect. SETAC Press, Pensacola, FL. IN PRESS.
- Linder, G., S. Krest, D.W. Sparling and E. Little (eds). 2003. *Multiple Stressor Effects in Relation to Declining Amphibian Populations*. ASTM Special Technical Publication 1443. ASTM, West Conshohocken, PA. Pp. 1-282.
- Linder, G., S. Krest, D.W. Sparling (eds.). 2003. *Amphibian Decline: An Integrated Analysis of Multiple Stressor Effects*. SETAC Press, Pensacola, FL. xix+345.
- Sparling, D.W., S.K. Krest, and G. Linder. 2003. Multiple stressors and declining amphibian populations: an integrated analysis of cause-effect to support adaptive resource management. Pp. 1-8, In: Linder. G, S.K. Krest and D.W. Sparling (eds). *Amphibian Decline: An Integrated Analysis of Multiple Stressor Effects*. SETAC Press, Pensacola, FL. xix+345.
- Sparling, D.W. and D. Cowman. 2003. Amphibians and pesticides in pristine areas. Pp. 257-264 In: ,Linder. G, S.K. Krest and D.W. Sparling (eds). *Amphibian Decline: An Integrated Analysis of Multiple Stressor Effects*. SETAC Press, Pensacola, FL. xix+345.
- Krest, S.K., D. Shank, G. Linder, and D. Sparling. 2003. SETAC Wingspread Workshop: summary, recommendations and habitat restoration. Pp. 315-326. In: Linder. G, S.K. Krest and D.W. Sparling (eds). *Amphibian Decline: An Integrated Analysis of Multiple Stressor Effects*. SETAC Press, Pensacola, FL. xix+345.
- Sparling, DW. 2005. Attitudes threaten DOI biology. BioScience 55:300. Letter to Editor

### C. "Gray" Literature - Reports, Articles, etc.

- Sparling, D.W., T.P. Lowe, and F. Pinkney. 1996. Chemicals used to control mosquitoes on refuges differ in toxicity to amphibians. Research Information Bulletin, National Biological Service).
- Pinkney, A.E., P.C. McGowan, D.R. Murphy, D.W. Sparling, T.P. Lowe, and L.C. Ferrington. 1998. Non-target effects of the mosquito larvicides, temephos, and

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methoprene, at Bombay Hook and Prime Hook National Wildlife Refuges. USFWS Publ. CBFO-C98-01, U.S. Fish Wildlife Service, Annapolis, MD 75 pp + appendici.

Sparling, D.W. 1999. Deformities in Southern Leopard Frogs linked to Pesticide. People Land and Waters. (invited article).

Sparling, D.W., N. Melvin, and T.P. Lowe. 2000. Mid-Atlantic States Restored Wetlands Assessment. EPA Office of Water website: <http://www.epa.gov/owow/wetlands/bawwg/case/md.html>.

Sparling, D.W., G.M. Fellers, and L.L. McConnell. 2002. Contaminants are a primary factor in the decline of amphibians in the Sierra Nevada Mountains. US Dept. Interior People, Land & Water, July/August.

Sparling, D.W. 2005. Effects of glyphosate on turtle embryos. Final Report submitted to Nature Conservancy and U.S. Fish and Wildlife Service.

Sparling, D.W. 2005. Assessing the risk of aerially borne pesticides to declining amphibian species in the national parks of the Sierra Nevada Mountains, California. Final report submitted to U.S. Fish and Wildlife Service.

### **Recent External Grants and Contracts**

1994, 1995. U.S. Department of Defense. Approximately \$60K each year to conduct research on the toxicity of white phosphorus to waterfowl under field and laboratory conditions.

1996-1998 U.S. Department of Agriculture, Natural Resource Conservation Service. \$75K for each of three years to support research on developing an index of biotic integrity for restored wetlands on the Delmarva Peninsula.

1998, 1999. U.S. Environmental Protection Agency, Office of Research and Development, \$50K each year in support of research to develop an index of biotic integrity on wetlands.

2000. U.S. Fish and Wildlife Service, Region 1. \$45K for research on the effects of pesticides on threatened and declining amphibian populations in the Sierra Nevada mountains, California.

2000-2002. US Geological Survey competitive funding, \$30K each year for work on the effects of pesticides on amphibian populations in the Sierra Nevada.

2001. U.S. Air Force. \$29K for laboratory study on perchlorate inhibition of metamorphosis in amphibians.

2003. U.S. Dept. of Agriculture. Agricultural Research Service. \$60K to conduct risk assessment of wetlands used by amphibians in a Superfund site.

2003-2004. U.S. Geological Survey, competitive Park Oriented Biological Support program, \$55K to aid laboratory study on the effects of pesticides on amphibians.

2004. Comparison of the sensitivity of Pacific treefrogs (*Pseudacris regilla*) and foothills yellow-legged frogs (*Rana boylei*) to chlorpyrifos and endosulfan. US Geological Survey, \$10,200.

2004. Responses of northern bobwhite, vegetation and invertebrates to three

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methods of renovating monotypic CRP grasslands in southcentral Illinois. USDA, NRCS, \$123,000.

2004. Toxicity of glyphosate on turtles. Nature Conservancy, \$19,000.

2004. Cholinesterase activity levels in Pacific treefrog tadpoles at high elevations in the southern Sierra Nevada, California. National Park Service, \$12,175.

2005. Toxicity of sediments containing coal-tar pavement sealants to *Eurycea nana* and *Notophthalmus viridescens*, surrogate species for *Eurycea sosorum*. Barton Springs Conservation Fund, \$78,439.

2005. Cooperative upland wildlife research and surveys. Illinois Dept. Natural Resources, Federal Aid in Fish and Wildlife Restoration Project Number W-106-R. C. Nielsen, E. Schauber and D Sparling. \$118,009.

2006. Effects of urbanization on recruitment and harvest of mourning doves. AND: Ecology of Eurasian collared doves in southern Illinois with emphasis on Interspecific interactions between ECD and mourning doves. Illinois Department of Natural Resources, Federal Aid in Fish and Wildlife Restoration Project Number W-106-R. Sparling and Schauber. \$320,000 (the mourning dove projects' share of the Federal Aid Upland Game package).

2006. Mercury and methylmercury concentrations in amphibians and sediments as related to coal-fired electrical generating plants. Illinois Waste Management and Research Center. Halbrook and Sparling. \$15,000. 9/2006-9/2008.

#### **OTHER NOTEWORTHY ACTIONS**

I was able to arrange a Student Career Evaluation Program (SCEP) position in the U.S. Fish and Wildlife Service for a graduate student (Cydney Meadows) who is a member of an underrepresented minority.