

CURRICULUM VITAE

DR Christiaan Winterbach

INTRODUCTION

Christiaan and Hanlie Winterbach set up a long term ecological monitoring project in NG/29 and NG/30 with a strong focus on lions living in the highly sensitive ecosystem of the Okavango Delta in northern Botswana. To date, they have collected thirteen years of baseline data on this unique lion population and their social dynamics. This data is crucial to formulate a long-term management strategy for lions in this primary RAMSAR Wetland in southern Africa. From 1997 to 2000 Christiaan also conducted research on the vegetation impact of elephants around artificial waterholes in the Nogatsaa area of Chobe National Park. Both of them have been involved with CBNRM in Botswana.

In 2000 the Winterbachs became founder members of the African Lion Working Group (affiliate of the IUCN Cat Specialist Group and the Conservation Breeding Specialist Group of the Species Survival Commission), and have been members of the IUCN Cat Specialist Group since 2002. They have collaborated with the Department of Wildlife and National Parks (DWNP), the Laboratory of Genomic Diversity, National Cancer Institute U.S.A. as well as private researchers.

Christiaan pioneered lion surveys in the Okavango Delta in 1995 and planned and coordinated the Lion Surveys of northern Botswana from 1999 to 2000, in cooperation with the Botswana Department of Wildlife and National Parks (DWNP). In collaboration with Dr. Lucas Rutina and Ms. L. Sechele from DWNP, he developed and presented the Lion Survey Technique Training Workshop for Department of Wildlife and National Parks staff in 2000.

This was followed by being awarded the DWNP contract to develop a National Predator Management Strategy for Large Predators in Botswana in 2002/2003.

The transboundary population of cheetahs and endangered wild dogs in Botswana and neighbouring Namibia, South Africa, Zimbabwe and Zambia are critical populations for the long term conservation of both species (IUCN/SSC 2007). Similarly there are significant transboundary lion populations in Botswana (IUCN/SSC 2006). Christiaan is currently planning large carnivore surveys to assess distributions and densities of top predators across habitats and land use. In recent scientific publications Christiaan and Hanlie identified key areas that are critical to assess the regional population viability and to identify critical areas to maintain population links.

PERSONAL INFORMATION:

SURNAME: Winterbach
NAMES: Christiaan Willem
DATE OF BIRTH: 6 June 1960, Vereniging
NATIONALITY: Republic of South Africa
COUNTRY OF RESIDENCE: Botswana
MARITAL STATUS: Married

QUALIFICATIONS

1991: Master of Science (Wildlife Management). University of Pretoria, South Africa. Thesis: Influence of pesticides on numbers of helmeted guineafowl, *Numida meleagris*, in agricultural areas.

1984: Bachelor of Science Honours (Wildlife Management). University of Pretoria, South Africa.

1983: Bachelor of Science, Main subjects: Zoology and Botany. University of Pretoria, South Africa.

1978: Matric (Std. 10). South Africa. Subjects: Afrikaans (B), English (B), Mathematics (Distinction), Science (Distinction), Geography (Distinction), Accountancy (Distinction), Computer Science (Distinction).

EMPLOYMENT

1997-present: Self-employed: Director of Tau Consultants (Pty.) Ltd. Botswana.

15 October 1986 to 28 February 1997: Department of Environmental Affairs and Tourism, Provincial Administration Free State. South Africa.

First Nature Conservation Scientist	1994/04/01 – 1997/02/28
Senior Nature Conservation Scientist	1991/11/11 – 1994/03/31
Nature Conservation Scientist	1989/11/11 – 1991/11/10
Asst Nature Conservation Scientist	1986/10/15 – 1989/11/10

1 April 1985 to 15 October 1986: Part time Junior Lecturer. Department of Zoology, University of Pretoria, South Africa.

1984: Temporary Technician. Eugene Marais Chair for Wildlife Management, University of Pretoria, South Africa.

1982-1983: Temporary Technical Assistant. Department of Botany, University of Pretoria, South Africa.

AWARDS

1995 Achievement Award Provincial Administration Free State

1993 Achievement Award Provincial Administration Free State

SCIENTIFIC PAPERS

WINTERBACH, C.W. , CAROLYN WHITESELL AND M.J. SOMERS.

(Submitted) Wildlife abundance and diversity as indicators of tourism potential in northern Botswana.

WINTERBACH, C.W. , H.E.K. WINTERBACH, D. PEAKE AND M.J. SOMERS. (Submitted). Suitability of the pulp-tooth ratio method to estimate the age of trophy-hunted African lions (*Panthera leo*) in Botswana.

WINTERBACH, H.E.K., C.W. WINTERBACH AND M.J. SOMERS. (2014) Landscape Suitability in Botswana for the Conservation of Its Six Large African Carnivores. *PLoS ONE* 9. doi:10.1371/journal.pone.0100202

WINTERBACH HEK, WINTERBACH CW, SOMERS MJ, HAYWARD MW. 2012. Key factors and related principles in the conservation of large African carnivores. *Mammal Review* (2012) doi: 10.1111/j.1365-2907.2011.00209.x

KALWIJ JM, DE BOER WF, MUCINA L, PRINS HHT, SKARPE C, AND WINTERBACH C. 2010. Tree cover and biomass increase in a southern African savanna despite growing elephant population. *Ecological Applications* **20**(1) :222–233.

MELODY E. ROELKE, MEREDITH A. BROWN, JENNIFER L. TROYER, HANLIE WINTERBACH, CHRISTIAAN WINTERBACH, GRAHAM HEMSON, DAHLEM SMITH, RANDALL C. JOHNSON, JILL PECON-SLATTERY, ALFRED L. ROCA, KATHERINE ALEXANDER, LIN KLEIN, PAULO MARTINELLI, KARTHIUANI KRISHNASAMU, STEPHEN J. O'BRIEN. 2009. Pathological manifestations of feline immunodeficiency virus (FIV) infection in wild African lions. *Virology* (2009) 390(1):1-12. DOI:10.1016/j.virol.2009.04.011

ANTUNES A, TROYER JL, ROELKE ME, PECON-SLATTERY J, PACKER C, WINTERBACH C, WINTERBACH H, HEMSON G, FRANK L, STANDER P, SIEFERT L., DRICIRU M, FUNSTON PJ, ALEXANDER K A, PRAGER KC, MILLS G, WILDT D, BUSH M, O'BRIEN SJ, JOHNSON WE. 2008. The Evolutionary Dynamics of the Lion *Panthera leo* Revealed by Host and Viral Population Genomics. *PLoS Genet* **4**(11): e1000251. doi:10.1371/journal.pgen.1000251

JILL PECON-SLATTERY, CARRIE L MCCRACKEN, JENNIFER L TROYER, SUE VANDEWOUDE, MELODY ROELKE, KERRY SONDEGROTH, CHRISTIAAN WINTERBACH, HANLIE WINTERBACH AND STEPHEN J O'BRIEN. 2008. Genomic organization, sequence divergence, and recombination of feline immunodeficiency virus from lions in the wild. *BMC Genomics* **9**:66

JENNIFER L. TROYER , JILL PECON-SLATTERY, MELODY E. ROELKE, WARREN JOHNSON¹, SUE VANDEWOUDE, NURIA VASQUEZ-SALAT, MEREDITH BROWN¹, JOSÉ GODOY, LAURENCE FRANK, ROSIE WOODRUFF, CHRISTIAAN WINTERBACH, HANLIE WINTERBACH, GRAHAM HEMSON, KATHERINE ALEXANDER, MITCH BUSH, AND STEPHEN J. O'BRIEN. 2005. Seroprevalence and Genomic Divergence of Circulating Strains of Feline Immunodeficiency Virus (FIV) among Felidae and Hyenadae species. *Journal of Virology* **79**(13) 8282-8294.
MSN003537

WINTERBACH, C.W. & WINTERBACH, H.E.K. (2002). Okavango Delta lions. Ecology, home range and population dynamics. In: *Proceedings of the 2nd Meeting of the*

African Lion Working Group – May 2002 (IUCN/CSS). (Ed.) De Waal, H.O. Bloemfontein, South Africa. (ISBN 0-620-29886-3).

WINTERBACH, C.W., WINTERBACH, H.E.K. & SECHELE, M.L. (2002). The use of calling stations to determine the status of lions in the Okavango Delta. In: *Proceedings of the 2nd Meeting of the African Lion Working Group – May 2002 (IUCN/CSS)*. (Ed.) De Waal, H.O. Bloemfontein, South Africa. (ISBN 0-620-29886-3).

WINTERBACH, C.W. & WINTERBACH, H.E.K. (2001). Okavango Delta lions. Ecology, home range and population dynamics. In: *Lion Conservation Research WorkshopII: Modelling Conflict*. Wildlife Conservation Research Unit, University of Oxford, UK. (ISBN 0-9529371-9-0).

WINTERBACH, C.W. & WINTERBACH, H.E.K. (2001). Okavango Delta lions. Ecology, home range and population dynamics. In: *Report of Workshop Proceedings: National Technical Predator Management and Conservation Workshop in Botswana – 2001*. Department of Wildlife and National Parks in collaboration with The Kalahari Conservation Society, Maun, Botswana.

SECHELE, M.L. & WINTERBACH, C.W. (2001). Lion Surveys in Northern Botswana. 1998-2000. In: *Report of Workshop Proceedings: National Technical Predator Management and Conservation Workshop in Botswana – 2001*. Department of Wildlife and National Parks in collaboration with The Kalahari Conservation Society, Maun, Botswana.

WINTERBACH, C.W. & WINTERBACH, H.E.K. (2001). Ecological monitoring of the lions in the Okavango Delta, Botswana. In: *Lion Conservation Research Workshop I: Survey Techniques*. Wildlife Conservation Research Unit, University of Oxford, UK. (ISBN 0-9529371-5-8).

WINTERBACH, C.W. & OOSTHUIZEN, J.H. (1992). The diet of Helmeted Guineafowl in the Orange Free State as a potential source of pesticides. *Ostrich* 38-41.

SCIENTIFIC ADVISORS

2004: Wildlife documentary “Swamp Cats” for BBC.

2003: Wildlife documentary “Roar, Lions of the Kalahari” an IMAX film for National Geographic.

2002: Wildlife documentary “Swimming Lions” for Animal Planet

MEMBERSHIP OF ASSOCIATIONS

2004- currently: Member of South African Wildlife Management Association.

2002- currently: Member of the IUCN Cat Specialist Group.

2001- currently: Kalahari Conservation Society.

1999- currently: Founder members of the African Lion Working Group (IUCN/CSS)

PRESENTATIONS AT SYMPOSIUMS/ WORKSHOPS/ MEETINGS

WINTERBACH, C.W. (2014) Ecological Monitoring in the Okavango Delta. *Botswana Wildlife Research Symposium “Bridging the Gap between Conservation Science and Management” 4-6 February 2014, BWTI, Maun*

WINTERBACH, C.W. (2012) Status of Lions in Botswana. *11th African Consultative Forum, Kasane, Botswana. SCI Foundation.*

WINTERBACH, HANLIE.E.K., WINTERBACH, C.W., SOMERS, M.J. (2012) Dynamics of human-carnivore conflicts: Key factors and related principles in the conservation of large African carnivores. *IVth International Wildlife Management Congress 2012, Durban, South Africa.*

WINTERBACH, C.W., WINTERBACH, HANLIE.E.K., SOMERS, M.J. (2012) Dynamics of human-carnivore conflicts: the Botswana carnivore landscape. *IVth International Wildlife Management Congress 2012, Durban, South Africa.*

WINTERBACH, C.W. (2012) The role of the private sector in monitoring. Workshop: *The future of the Okavango's wildlife: "An urgent call to define an improved adaptive management and research strategy for the Delta. Maun, Botswana.*

WINTERBACH, C.W., WINTERBACH, HANLIE.E.K. (2012) The Botswana Carnivore Landscape. *African Lion Working Group Conference 2012.*

WINTERBACH, C.W., FUNSTON, P.J., HEMSON, G., WINTERBACH, H.E.K., ROELKE, M.E. TROYER, J.L., ALEXANDER, K. & O'BRIEN, S.J. (2007) Sero-prevalence of Feline immunodeficiency virus in African lions – is it host density dependent? *Felid Biology and Conservation Conference, Oxford, UK.*

WINTERBACH, H.E.K., YOUNG, E., FUNSTON, P.J. & WINTERBACH, C.W. (2007) Effectiveness of three types of collars used to monitor free ranging lions (*Panthera leo*) in the Okavango Delta, Botswana. *Felid Biology and Conservation Conference, Oxford, UK.*

WINTERBACH, C.W., FUNSTON, P.J., HEMSON, G., WINTERBACH, H.E.K., ROELKE, M.E. TROYER, J.L., ALEXANDER, K. & O'BRIEN, S.J. (2006) Sero-prevalence of Feline immunodeficiency virus in African lions – is it host density dependent? *8th International Feline Retrovirus Research Symposium, Washington, DC, USA.*

WINTERBACH, C.W. (2004). Status and Conservation of Lions. *Annual General Meeting of the Game Ranchers Association of Africa, Maun, Botswana.*

WINTERBACH, H.E.K. & WINTERBACH, C.W. (2002). Okavango Delta Lion Monitoring Project 1997-2001. *Annual General Meeting of Private Researchers in Botswana, Department of Wildlife and National Parks, Kasane, Botswana.*

WINTERBACH, H.E.K. & WINTERBACH, C.W. (2002). Okavango Delta Lion Monitoring Project 1997-2001. *2nd Meeting of the African Lion Working Group – May 2002. Willem Pretorius Game Reserve, South Africa.*

WINTERBACH, C.W. & WINTERBACH, H. (2001). Preliminary evaluation of a Televilt GPS collar on a lioness in the Okavango Delta. *Southern African Lion Research Symposium II, Wildlife Conservation Research Unit, University of Oxford, Darwin Initiative for Biodiversity, Okavango Delta, Botswana.*

WINTERBACH, C.W. (2002). Influence of artificial water provision on woody species at Nogaatsa, Chobe National Park 1997-2000. *Annual General Meeting of Private Researchers in Botswana, Department of Wildlife and National Parks, Kasane, Botswana.*

SECHELE, M.L. & WINTERBACH, C.W. (2001). Lion surveys in northern Botswana 1998 – 2000. *National Predator Workshop, Department of Wildlife and National Parks, Maun, Botswana.*

WINTERBACH, C.W. (2001). The status of lions in northern Botswana. *Annual General Meeting, Kalahari Conservation Society, Gaborone, Botswana.*

WINTERBACH, C.W. & SECHELE, L. (2001). The Coordinated Lion Surveys of the Okavango Delta 1998-1999. *8th International Theriological Congress, Sun City, South Africa.*

WINTERBACH, C.W. & WINTERBACH, H. (2000). The use of calling stations to determine the status of lions in the Okavango Delta, Botswana. *Southern African Lion Research Symposium I, Wildlife Conservation Research Unit, University of Oxford, Darwin Initiative for Biodiversity, Harare, Zimbabwe.*

WINTERBACH, C.W. & OOSTHUIZEN, J.H. (1994). Postal survey of pesticide use and wildlife mortalities in the Ventersdorp district. *2nd Southern African Gamebird Symposium on Gamebird Management and Utilization in Southern Africa. Onderstepoort, South Africa.*

WINTERBACH, C.W. & OOSTHUIZEN, J.H. (1994). Application of pesticides in maize lands and the effects of habitat and pesticide use on guineafowl numbers in the Ventersdorp district. *2nd Southern African Gamebird Symposium on Gamebird Management and Utilization in Southern Africa. Onderstepoort, South Africa.*

COURSES AND WORKSHOPS COMPILED/PRESENTED/FACILITATED

2011: Presented part of course. Integrated Livestock Wildlife Management course November 2011. *Cheetah Conservation Fund, Otjiwarongo, Namibia.*

2011: Presented part of course. International Cheetah Conservation Biology Course June 2011. *Cheetah Conservation Fund, Otjiwarongo, Namibia.*

2003: Facilitated the Stakeholders Workshop for the National Management Strategy for Large Predators in Botswana. *Kalahari Conservation Society and Department of Wildlife and National Parks, Maun, Botswana.*

2002: Facilitated the Inter-departmental Workshop for the National Management Strategy for Large Predators in Botswana. *Department of Wildlife and National Parks, Okavango Delta, Botswana.*

2001: Hosted the Southern African Lion Research Symposium II. *Wildlife Conservation Research Unit, University of Oxford, Darwin Initiative for Biodiversity, Okavango Delta, Botswana.*

2000: Organised and presented the Lion Survey Technique Training Workshop for Department of Wildlife and National Parks staff. *Department of Wildlife and National Parks, Maun, Botswana.*

1995: Compiled and presented the Computers on Nature Reserves Workshop: Addressing Specific Computer Skills needed by Reserve Managers and their Administration Personnel. *Department of Environmental Affairs and Tourism, Provincial Administration Free State, South Africa.*

1994: Compiled and presented the Nature Reserve Management Plans and Annual Reports Workshop. *Department of Environmental Affairs and Tourism, Provincial Administration Free State, South Africa.*

1992: Compiled and presented the Vegetation Monitoring Techniques Course for Nature Conservators. *Directorate of Nature and Environmental Conservation, Provincial Administration Free State, South Africa.*

REPORTS

WINTERBACH, C.W. (2014). Environmental Monitoring NG/43: Report 3: 2013. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.

WINTERBACH, C.W. (2012). Environmental Monitoring NG/43: Report 2: 2012. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.

WINTERBACH, C.W. (2012). Environmental Audit Macatoo, NG/26: Progress Report 4. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.

WINTERBACH, C.W. (2011). Environmental Monitoring NG/43: Report 1: 2011. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.

WINTERBACH, C.W. (2011). Environmental Audit Macatoo, NG/26: Progress Report 3. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.

WINTERBACH, C.W. (2011). Environmental Audit Macatoo, NG/26: Progress Report 2. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.

WINTERBACH, C.W. (2011). Environmental Audit Macatoo, NG/26: Progress Report 1. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.

WINTERBACH, C.W. & MEYER, T. (2008). Wildlife Biomass and Diversity as Suitability Indicators for High Paying Low Volume Tourism In Northern Botswana. Unpublished report, Maun, Botswana.

WINTERBACH, H. & WINTERBACH, C.W. (2007). Okavango Delta Lion Monitoring Project NG/29 and NG/30: Summary Report 1997-2006. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.

WINTERBACH, H. & WINTERBACH, C.W. (2006). Okavango Delta Lion Monitoring Project NG/29 and NG/30: Summary Report 2000-2005. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.

WINTERBACH, C.W., WINTERBACH, H. & SECHELE, M.L. (2002). Coordinated Dry Season Lion Survey for the Okavango Delta, 2000. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W. & KALWIJ, J. (2002). The Influence of Artificial Water Provision on Woody Species Composition in Nogaatsa, Chobe National Park 1997-2000. *Report to the Chobe Wildlife Trust, Kasane, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. SECHELE, M.L. & KAT, P. (2001). Results of the Coordinated Dry Season Lion Survey for the Okavango Delta 1999. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. & KAT, P. (2000). Lion Monitoring in the Okavango Delta: A summary of the 1999 surveys. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W. & WINTERBACH, H. (2000). Ecological Monitoring Program for NG29/NG30, 1999-2000. *Report to Okavango Development/Rann Safaris/Landela Safaris, Maun, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. RUTINA, L. & KAT, P. (2000). Results of the Coordinated Dry Season Lion Survey for the Okavango Delta 1998. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. RUTINA, L. & KAT, P. (1998). Lion Monitoring in the Okavango Delta: A summary of the 1998 surveys. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. & KAT, P. (1997). Lion Monitoring in the Okavango Delta: A summary of the 1997 surveys. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. (1998). NG29/NG30 Environmental Monitoring 1998. *Report to Okavango Development/Rann Safaris/Landela Safaris, Maun, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. (1997). NG29 Environmental Monitoring Report 1997. *Report to Safari South, Maun, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. (1997). NG25 Lion Survey, October 1996. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. (1997). NG22 Lion Survey, October 1996. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. (1996). NG29 Lion Survey, October 1996. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. (1996.) NG26 Lion Survey, October 1995. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W., WINTERBACH, H. (1996). NG25 Lion Survey, October 1995. *Report to the Department of Wildlife and National Parks, Gaborone, Botswana.*

WINTERBACH, C.W. (1996.) Privatisation of Tourism on Provincial Nature Reserves in the Free State. *Report to Department of Agriculture and Environmental Affairs, Provincial Administration Orange Free State, South Africa.*

WINTERBACH, C.W. (1995). A Preliminary Investigation to Enlarge Willem Pretorius Game Reserve. *Report to Department of Agriculture and Environmental Affairs, Provincial Administration Orange Free State, South Africa.*

WINTERBACH, C.W. (1994). Drakragbepaling en voorgestelde wildvermindering van Willem Pretorius Wildtuin vir 1994. (Grazing capacity and proposed game removal for Willem Pretorius Game Reserve for 1994). *Report to the Directorate of Nature and Environmental Conservation, Provincial Administration Orange Free State, South Africa.*

WINTERBACH, C.W. (1993). Drakragbepaling en voorgestelde wildvermindering van Willem Pretorius Wildtuin vir 1993. (Grazing capacity and proposed game removal for Willem Pretorius Game Reserve for 1993). *Report to Department of Agriculture and Environmental Affairs, Provincial Administration Orange Free State, South Africa.*

WINTERBACH, C.W. (1993). Voorgestelde wysigings aan die formaat van bestuursplanne. (Proposed format of management plans). *Report to Department of Agriculture and Environmental Affairs, Provincial Administration Orange Free State, South Africa.*

WINTERBACH, C.W. (1992). Voorlopige drakragbepaling van Willem Pretorius Wildtuin vir 1992. (Preliminary grazing capacity of Willem Pretorius Game Reserve for 1992). *Report to Department of Agriculture and Environmental Affairs, Provincial Administration Orange Free State, South Africa.*

WINTERBACH, C.W. (1992). Aanbevelings rakende buffeldrakrag te Willem Pretorius Wildtuin vir 1991 -1992. (Recommendations regarding buffalo stocking rates at Willem Pretorius Game Reserve for 1991 - 1992). *Report to Department of Agriculture and Environmental Affairs, Provincial Administration Orange Free State, South Africa.*

WINTERBACH, C.W. (1992). Riglyne vir wilddlading te Willem Pretorius Wildtuin vir 1991 -1992. (Guidelines for stocking rates at Willem Pretorius Game Reserve for 1991 - 1992). *Report to Department of Agriculture and Environmental Affairs, Provincial Administration Orange Free State, South Africa.*

WINTERBACH, C.W. (1992). Drakragbepaling van Willem Pretorius Wildtuin vir 1991 -1992. (Grazing capacity of Willem Pretorius Game Reserve for 1991 - 1992). *Report to Department of Agriculture and Environmental Affairs, Provincial Administration Orange Free State, South Africa.*

WINTERBACH, C.W. (1990). The effect of pesticides applied to maize at Welgelegen on the Helmeted Guineafowl *Numida meleagris* (Linnaeus, 1758). *Report to Department of Agriculture and Environmental Affairs, Provincial Administration Orange Free State, South Africa.*

COURSES/SYMPOSIUMS ATTENDED

2014: Botswana Wildlife Research Symposium “Bridging the Gap between Conservation Science and Management” 4-6 February 2014, BWTI, Maun

2012: IVth International Wildlife Management Congress 2012, Durban, South Africa.

2012: Workshop: The future of the Okavango’s wildlife: “An urgent call to define an improved adaptive management and research strategy for the Delta. Maun, Botswana.

2012: African Lion Working Group Conference, Etosha, Namibia

2007: Felid Biology and Conservation Conference, Oxford, UK.

2006: 8th International Feline Retrovirus Research Symposium, *Washington, DC, USA.*

2002: 6th International Feline Retrovirus Research Symposium. Florida, United States of America.

2002: Southern African Lion Research Symposium III. Wildlife Conservation Research Unit, University of Oxford, Darwin Initiative for Biodiversity, Masvingo, Zimbabwe.

2002: 2nd Meeting of the African Lion Working Group. Willem Pretorius Game Reserve, South Africa.

2001: National Predator Workshop. Department of Wildlife and National Parks, Maun, Botswana.

2001: 8th International Theriological Congress. Sun City, South Africa.

2001: Southern African Lion Research Symposium II. Wildlife Conservation Research Unit, University of Oxford, Darwin Initiative for Biodiversity, Okavango Delta, Botswana.

2000: Kalahari Lion Project Management Strategy Workshop. Endangered Wildlife Trust Carnivore Conservation Group, Tsabong, Botswana.

2000: Southern African Lion Research Symposium I. Wildlife Conservation Research Unit, University of Oxford and Darwin Initiative for Biodiversity, Harare, Zimbabwe.

1999: Inception Meeting of the African Lion Working Group. Conservation Breeding Specialist Group Symposium. Warmbaths, South Africa.

1995: Project Management. Dynamic Growth Training, Free State, South Africa.

1994: The Use of Geographical Information Systems. Department of Geography, University of the Orange Free State, South Africa.

1994: Modelling Ecosystem Dynamics. Short Courses in Quantitative Conservation Biology, Witwatersrand University, South Africa.

1994: Population Models: A Basic Introduction. Short Courses in Quantitative Conservation Biology, Witwatersrand University, South Africa.

1994: Data Management in Conservation. Short Courses in Quantitative Conservation Biology, Witwatersrand University, South Africa.

1989: Computers in Conservation: A Practical Course. National Parks Board, Kruger National Park, South Africa.

1988: Birds of Prey Identification Course. National Zoological Gardens, Pretoria, South Africa.