

## **Appendix 2.2**

### **Specialist CV**



**Abridged CV:**

Contact details as per letterhead.

Surname : HELME

First names : NICHOLAS ALEXANDER

Date of birth : 29 January 1969

University of Cape Town, South Africa. BSc (Honours) – Botany (Ecology & Systematics). 1990.

SACNASP Registration No : 400045/08 (Pri.Sci.Nat)

BEE Level Four Contributor BE # 1915.

Since 1997 I have been based in Cape Town, and have been working as a specialist botanical consultant, specialising in the diverse flora of the south-western Cape. Since the end of 2001 I have been working on my own and trade as Nick Helme Botanical Surveys.

A selection of relevant work undertaken over the last few years is as follows:

- Scoping study of Proposed Wind Energy Facility near Swellendam (CSIR 2010)
- Scoping study of proposed Wind Energy Facility near Britannia Bay (Savannah Environmental 2010)
- Scoping study of proposed Wind Energy Facility at Rheboksfontein, Darling (Savannah Environmental 2010)
- Scoping study of proposed Wind Energy Facility near Vredenburg (Savannah Environmental 2010)
- Scoping study of Proposed Wind Energy Facility near Bredasdorp (CSIR 2010)
- Scoping study of Proposed Wind Energy Facility near Caledon (Arcus Gibb 2009)
- Scoping and Impact Assessment of proposed Wind Energy Facility near Hopefield (Savannah Environmental 2008 & 2009)
- Scoping study of Proposed Wind Energy Facility near Vredendal (DJ Environmental 2009)
- Scoping study of Proposed Wind Energy Facility west of Bitterfontein (DJ Environmental 2009)
- Botanical Scoping and Impact Assessment of proposed St Helena Hills development (DJ Environmental 2009)
- Botanical Impact Assessment of Portion 4 of Farm 560, Yzerfontein (EnviroLogic 2009)
- Botanical Impact Assessment of Portion 9 of Farm 957, Saldanha (EnviroLogic 2008)
- Botanical Impact Assessment of proposed development on Portion 87 of the Farm Witteklip 123, Vredenburg (CCA Environmental 2008)
- Botanical Sensitivity study of Portion 4 of Farm Yzerfontein 560 (De Villiers family 2008)
- Botanical Scoping and Impact Assessment of proposed overnight sites in the West Coast National Park (SANParks 2008 & 2010)
- Fine Scale Vegetation Mapping for Saldanha Municipality (CapeNature 2007)
- Botanical Assessment of Rem. Erf 460 Ptn A, St Helena (Envirodinamik 2007)
- Stewardship assessment of Rainbow Chicken Sites (CapeNature 2007)

## Curriculum Vitae

### CHRIS VAN ROOYEN

**DATE OF BIRTH:** 30 April 1964

**SPECIALIST FIELD:** Avifauna

#### RELEVANT WORK EXPERIENCE (PLSE SEE APPENDIX A FOR A MORE COMPREHENSIVE CAREER HISTORY)

- 1991-1995: Volunteer for the Endangered Wildlife Trust's Raptor Conservation Group and Vulture Study Group.
- 1996-2007: Specialist Consultant with the Endangered Wildlife Trust. Duties entailed the overall co-ordination and management of the Endangered Wildlife Trust's national programme to eliminate negative wildlife interactions with electrical utility structures in southern Africa
- Since November 2007 to present: Environmental Consultant specialising in Bird Impact Assessment Studies and Project Management

#### CLIENTS

##### Industry

- Eskom Distribution Division
- Eskom Transmission Division
- Eskom Research (Resources and Strategy)
- Eskom Generation Division
- Botswana Power Company
- NamPower (Namibia)
- Debswana (Botswana)
- SAPPI
- Texas Utility Company (USA)
- TransPower (New Zealand)
- South African Roads Agency

##### Lead Consultants

- Bohlweki Environmental
- Strategic Environmental Focus
- Tswelopele Environmental
- Digby Wells Associates
- Iliso Consulting
- Savannah Environmental
- PBA International
- Arcus Gibb
- Landscape Dynamics
- BKS

- Naledzi Environmental
- Eyethu Engineers
- Ninham Shand
- WSP Environmental
- Enviro Dynamics (Namibia)
- Eco Assessments
- Loci Environmental (Botswana)
- SRK
- Zitholele Consulting
- EcoPlan (Namibia)
- Groundwater Consultant Services – SA
- CSIR

#### Bird Impact Assessment Specialist Studies:

**For power lines:** 66  
**For power stations:** 2  
**For wind-powered generation facilities:** 2

1. Chobe 33kV Distribution line
2. Athene - Umfolozi 400kV
3. Beta-Delphi 400kV
4. Cape Strengthening Scheme 765kV
5. Flurian-Louis-Trichardt 132kV
6. Ghanzi 132kV (Botswana)
7. Ikaros 400kV
8. Matimba-Witkop 400kV
9. Naboomspruit 132kV
10. Tabor-Flurian 132kV
11. Windhoek - Walvisbaai 220 kV (Namibia)
12. Witkop-Overysse 132kV
13. Breyten 88kV
14. Adis-Phoebus 400kV
15. Dhuva-Janus 400kV
16. Perseus-Mercury 400kV
17. Gravelotte 132kV
18. Ikaros 400 kV
19. Khanye 132kV (Botswana)
20. Moropule – Thamaga 220 kV (Botswana)
21. Parys 132kV
22. Simplon –Everest 132kV
23. Tutuka-Alpha 400kV
24. Simplon-Der Brochen 132kV
25. Big Tree 132kV
26. Mercury-Ferrum-Garona 400kV
27. Zeus-Perseus 765kV
28. Matimba B Integration Project
29. Caprivi 350kV DC (Namibia)
30. Gerus-Mururani Gate 350kV DC (Namibia)
31. Mmamabula 220kV (Botswana)
32. Steenberg-Der Brochen 132kV
33. Venetia-Paradise T 132kV

34. Burgersfort 132kV
35. Majuba-Umfolozi 765kV
36. Delta 765kV Substation
37. Braamhoek 22kV
38. Steelpoort Merensky 400kV
39. Mmamabula Delta 400kV
40. Delta Epsilon 765kV
41. Gerus-Zambezi 350kV DC Interconnector: Review of proposed avian mitigation measures for the Okavango and Kwando River crossings
42. Giyani 22kV Distribution line
43. Liqhobong-Kao 132/11kV distribution power line, Lesotho
44. 132kV Leslie – Wildebeest distribution line
45. A proposed new 50 kV Spoornet feeder line between Sishen and Saldanha
46. Cairns 132kV substation extension and associated power lines
47. Pimlico 132kV substation extension and associated power lines
48. Gyani 22kV
49. Matafin 132kV
50. Nkomazi\_Fig Tree 132kV
51. Pebble Rock 132kV
52. Reddersburg 132kV
53. Thaba Combine 132kV
54. Nkomati 132kV
55. Louis Trichardt – Musina 132kV
56. Endicot 44kV
57. Apollo Lepini 400kV
58. Tarlton-Spring Farms 132kV
59. Kuschke 132kV substation
60. Bendstore 66kV Substation and associated lines
61. Kuiseb 400kV (Namibia)
62. Gyani-Malamulele 132kV
63. Watershed 132kV
64. Bakome 132kV substation
65. Eerstegoud 132kV LILO lines
66. Kumba Iron Ore: SWEP - Relocation of Infrastructure
67. Kudu Gas Power Station: Associated powerlines

#### **Bird Impact Assessment Studies for power stations**

1. Open Cycle Gas Turbine Plants & The Associated Transmission Lines & Substation At Atlantis, Western Cape
2. Kangra Power Station: Siting Report

#### **Bird Impact Assessment Studies for wind-powered generation facilities**

1. Klipheuvel Experimental Wind Power Facility
2. Kouga Wind Facility Western Cape

#### **Risk Assessments on existing electricity infrastructure: 18**

1. Amandel 132kV
2. Atlanta 22kV

3. Butterworth-Ncora 66kV
4. Debswana Jwaneng 66kV (Botswana)
5. Edwardsdam – Mareetsane 88kV
6. Gaberone 132kV (Botswana)
7. Lydenburg-Merensky 132kV
8. Tabor-Dendron 132kV
9. Vryheid-Bredasdorp 66kV
10. Vygeboom 132kV
11. Watershed-Mmabatho 88kV
12. Welgevonden 22kV network
13. Ferrum-Garona 275kV
14. Investigation into genet related faulting at the Perseus Substation,
15. North-West Transmission Region
16. Investigation into genet related faulting at the Helios Substation,
17. Western Transmission Region
18. Investigation into vulture electrocutions on staggered vertical reticulation structures in the Northern Cape

#### **Bird Impact Assessment Studies for non-power line developments: 20**

1. Lizard Point Golf Estate
2. Lever Creek Estates
3. Leloko Lifestyle Estates
4. Vaaloewers Residential Development
5. Clearwater Estates Grass Owl Impact Study
6. Sommerset Ext. Grass Owl Study
7. Proposed Three Diamonds Trading Mining Project (Portion 9 and 15 of the Farm Blesbokfontein)
8. N17 Section: Springs To Leandra –“Borrow Pit 12 And Access Road On (Section 9, 6 And 28 Of The Farm Winterhoek 314 Ir)
9. South African Police Services Gauteng Radio Communication System: Portion 136 Of The Farm 528 Jq, Lindley.
10. Report for the proposed upgrade and extension of the Zeekoegat Wastewater Treatment Works, Gauteng.
11. Bird Impact Assessment for Portion 265 (a portion of Portion 163) of the farm Rietfontein 189-JR, Gauteng.
12. Bird Impact Assessment Study for Portions 54 and 55 of the Farm Zwartkop 525 JQ, Gauteng.
13. Bird Impact Assessment Study Portions 8 and 36 of the Farm Nootgedacht 534 JQ, Gauteng.
14. Shumba's Rest Bird Impact Assessment Study
15. Randfontein Golf Estate Bird Impact Assessment Study
16. Zilkaatsnek Wildlife Estate
17. Regenstone Communications Tower (Namibia)
18. Input into Richards Bay Comparative Risk Assessment Study
19. Maquasa West Open Cast Coal Mine
20. Proposed desalination plant and 132kV power line at Mile 6, Swakopmund, Namibia

### Environmental Impact Assessment Reports: 1

- Draft Environmental Impact Report for a proposed dam in the Moseitse River in Botswana

### Basic Assessments: 2

- Proposed temporary and permanent diversion of Lovato Road, Gauteng
- Flood Management: Rosslyn East at Frans du Toit Road, City of Tshwane

### Section 24G of NEMA applications: 1

- Rectification application for the de-silting of the Kaalplaasspruit, Rosslyn,

### Papers and Conference Presentations:

1. Van Rooyen, C. S. 1996. Towards an Integrated Management System for the Management of Wildlife Interactions with Electricity Structures. Abstracts of the 2<sup>nd</sup> International Conference on Raptors p.9. Raptor Research Foundation/University of Urbino.
2. Van Rooyen, C.S. & Piper, S.E. 1997. The effects of Powerlines on Vultures. In: BOSHOFF, A.F., ANDERSON, M.D. & BORELLO, W.D. (Eds). *Vultures in the 21<sup>st</sup> Century: Proceedings of a workshop on vulture research and conservation in southern Africa*. Johannesburg: Vulture Study Group: 102-104.
3. Kruger, R. & Van Rooyen, C.S. 1998. Evaluating the risk existing powerlines pose to large raptors by using risk assessment methodology: The Molopo case study. Proceedings of the 5<sup>th</sup> World Conference on Birds of Prey and Owls (in press). Raptor Conservation Group/World Working Group on Birds of Prey and Owls. Midrand. South Africa.
4. Van Rooyen, C.S., Kruger, R., Nelson, P.A & Fedorsky, C.A. 1998. The Eskom/EWT Strategic Partnership: The South African Approach towards the Management of Wildlife/Utility Interactions. EEI Natural Resources/Biologist National Workshop. 1998. Edison Electrical Institute, Washington, D.C.
5. Van Rooyen, C.S. 1998. Raptor mortality on powerlines in South Africa. Proceedings of the 5<sup>th</sup> World Conference on Birds of Prey and Owls (in press.). Raptor Conservation Group/World Working Group on Birds of Prey and Owls. Midrand. South Africa
6. Van Rooyen, C.S. 1998. Experiences of Partnerships in South Africa. Conference Proceedings, Second NGO Conference on the Environment, November 3-5 1998. Gaborone, Botswana.
7. Van Rooyen, C.S. 1999. An overview of the Eskom-EWT Strategic Partnership in South Africa. EPRI Workshop On Avian Interactions with Utility Structures 2-3 December 1999, Charleston, South Carolina.
8. Van Rooyen, C.S. & Taylor, P.V. 1999. Bird Streamers as probable cause of electrocutions in South Africa. EPRI Workshop on Avian Interactions with Utility Structures 2-3 December 1999. Charleston, South Carolina.

9. Van Rooyen, C.S. 2000. An overview of vulture electrocutions in South Africa. Vulture News No.43. Endangered Wildlife Trust. Johannesburg, South Africa.
10. Van Rooyen, C.S. Vosloo, H.F. & R.E. Harness. 2002. Eliminating bird streamers as a cause of faulting on transmission lines in South Africa. IEEE 46<sup>th</sup> Rural Electric Power Conference. May 2002. Colorado Springs. Colorado.
11. Van Rooyen, C. 2003. Mitigation Programme for Avian Collisions with Eskom Transmission Lines. Unpublished Progress Report. Endangered Wildlife Trust. September 2003.
12. Smallie, J. & Van Rooyen, C. 2003. Risk assessment of bird interaction on the Hydra-Droërivier 1 and 2 400kV. Unpublished report to Eskom Transmission Group. Endangered Wildlife Trust. Johannesburg. South Africa
13. Kruger, R. Van Rooyen, C.S. & Maritz, A. 2003. The electrocution risk posed to vultures by vertically configured medium voltage designs. Proceedings of the 6<sup>th</sup> World Conference on Birds of Prey and Owls, Budapest, Hungary, May 2003.
14. Van Rooyen, C. 2004. Report on vulture interactions with powerlines in southern Africa: 1996 to 2003. In: Monadjem, A., Anderson, M.D., Piper, S.E. & Boshoff, A.F. (Eds). *The vultures of Southern Africa-Quo Vadis?* Proceedings of a workshop on vulture research and conservation in southern Africa. Birds of Prey Working Group, Johannesburg.
15. Smallie, J. J & Van Rooyen, C.S. 2005. Impact of Bird Streamers on Quality of Supply on Transmission Lines: A Case Study. Proceedings of the 5<sup>th</sup> International Conference on Power and Energy Systems, Benalmadena, Spain.
16. Jenkins, A. Van Rooyen, C.S., De Goede J.A, Matshikiza M.T. 2005. Managing raptor interactions with powerlines in South Africa. Proceedings of the 5<sup>th</sup> International Conference on Power and Energy Systems, Benalmadena, Spain.
17. Van Rooyen, C.S., Froneman A, Piper S, Michael M. 2006. Assessing the power line network in the KwaZulu-Natal Province of South Africa from a vulture interaction perspective. Proceedings of International Conference on Utility Line Structures, Fort Collins, Colorado, March 2006.

### Research Reports

1. Van Rooyen, C. Jenkins, A. De Goede, J. & Smallie J. 2003. Environmentally acceptable ways to minimise the incidence of power outages associated with large raptor nests on Eskom pylons in the Karoo: Lessons learnt to date. Project number 9RE-00005 / R1127 Technology Services International. Johannesburg. South Africa.
2. Jenkins, A. De Goede, J. & Van Rooyen, C. 2004. Environmentally acceptable ways to minimise the incidence of power outages associated with large raptor

nests on Eskom pylons in the Karoo. Project number R99-00754. Technology Services International. Johannesburg. South Africa.

3. Jenkins, A. De Goede, J. & Van Rooyen, C. 2005. Implementation of management recommendations stemming from the Eskom Electric Eagle Project (or EEEP Phase 5). Project number R99-00754. Technology Services International. Johannesburg. South Africa.
4. Van Rooyen, C., Froneman A. & Piper S.E. 2004. The evaluation of vulture interactions with power lines in KwaZulu-Natal: Research Report RES/RR/04/24331. Eskom Resources and Strategy.
5. Van Rooyen, C. 2006. The evaluation of vulture interactions with power lines in KwaZulu-Natal: Phase Two. Research Report RES/RR/06/28111. Eskom Resources and Strategy.
6. Van Rooyen, C.S., Froneman A, Piper S. 2006. The quantification of risks that power lines pose to vultures in the greater Kimberley area. Research Report RES/RR/06/28106. Eskom Resources and Strategy.

#### **Book Chapters**

1. Van Rooyen, C.S & Ledger J. A. 1999. Birds and Utility Structures: Developments in Southern Africa. In: Birds and Power lines: Collisions, Electrocutation and Breeding. Ferrer M and Janss G F E Eds.
2. Van Rooyen, C.S. 2004. The Management of Wildlife Interactions with overhead lines. In The fundamentals and practice of Overhead Line Maintenance (132kV and above), pp217-245. Eskom Technology, Services International, Johannesburg.

#### **Awards**

- The Eskom-EWT Strategic Partnership won the Edison Electric Institute Common Goals Award in the USA for outstanding electric utility customer and community relations programmes in 1997, from a field of 61 international entries from 49 countries.
- The Eskom-EWT Strategic Partnership was a finalist in the 1998 and 2000 Green Trust Awards.
- Eskom Manager's Award in 1997 for the management of animal interactions.
- Eskom Manager's Award in 1999 for environmental management.
- Highly Commended Award in 2001 for Business Efficiency from Eskom Transmission Group.
- Nominated for Eskom Chairman's Award in 2001 in Environmental Category
- Runner-up: Eskom Resources and Strategy manager's award 2003
- Listed in Marqui's Who's Who in the World 2007 edition
- Northern Cape Raptor Conservationist of the Year: 2004

#### **Other interests/activities**

- I am a professional wildlife photographer and have been conducting photo safaris and courses since 2004 in my free time. My special interest is bird photography, and my photos have appeared in numerous publications both in SA and abroad. I

have also received merit awards in the Agfa, Fuji and BBC Wildlife Photographic Awards competitions.

- I am an accomplished bird artist and have done several stamps designs for the South African Post Office. I am also a co-illustrator of Roberts Birds of South Africa 7<sup>th</sup> Edition and the Roberts Field Guide to the Birds of Southern Africa 2007.



Chris van Rooyen

## APPENDIX A: Career history

My formal training is in the legal sciences. I studied at the Rand Afrikaans University where I obtained my LLB in 1990, and I was admitted as an advocate in 1994. However, my interest and passion has always been for the natural sciences, particularly the study of birds. I therefore had no regrets when I abandoned my legal career to pursue a career in conservation in 1996.

I started my formal employment in the conservation field at the Endangered Wildlife Trust (EWT) in April 1996. Prior to that I was a volunteer and member of the management committees of the Raptor Conservation Group and Vulture Study Group (now amalgamated under the Birds of Prey Working Group of the Endangered Wildlife Trust). I was offered the position of working group manager in April 1996 by Dr. John Ledger, then Director of the EWT, and my brief was to develop a strategic partnership with Eskom, aimed at reducing the conflicts between electricity infrastructure and wildlife, particularly birds.

Broadly speaking, my duties entailed the following:

- Strategic and operational liaison with electricity utilities, academic institutions and conservation bodies (senior management down to field staff)
- Initiation and co-ordination of strategic research initiatives on wildlife interaction with the electricity infrastructure to ensure appropriate mitigation strategies.
- Implementing a research programme on the prevention of wildlife and industry conflicts consisting of various projects to a total annual value of about R500 000.
- Conducting specialist investigations on the impact of existing and proposed electricity infrastructure on avifauna and vice versa.
- Auditing the implementation by Eskom of mitigation measures that had been recommended by the EWT

During my eleven and a half years at the EWT, I vigorously applied my energy and skills in order to become an authority in the field of wildlife conflicts with industry, both locally and internationally. Prior to the establishment of the Eskom-EWT Strategic Partnership, the South African experience with regard to wildlife interactions and electricity structures was generally characterised by an *ad hoc* approach, fragmented documentation, inconsistency of data and few "before and after" studies. I worked hard to systematically address these issues in order to place the entire management of this complex problem on a firm scientific footing. In summary, my career since 1996 rested on two main pillars namely conservation action and applied research. The applied research is largely in the field of wildlife interactions with electricity infrastructure. This requires a thorough understanding of birds and their interactions with the environment, both natural and artificial. I also developed a special expertise in the field of bird interaction with electricity infrastructure, in which I am currently the leading African authority.

My work at the EWT centred on the following key objectives:

- The design and maintenance of a national incident register for wildlife-electricity interactions. This was to ensure the identification of areas of high importance for biodiversity and quality of supply, and to track the implementation of mitigation measures. This data was analysed in order to design the best possible mitigation measures for each individual situation.
- The ongoing research, development and implementation of mitigation strategies to reduce negative wildlife interactions with electricity infrastructure.
- Capacity building within the electricity industry through dedicated training of Eskom staff in all aspects of wildlife interaction management on the Eskom grid.
- Ongoing investigations into all aspects of wildlife interactions with electricity infrastructure.
- Conducting specialist studies on the potential impacts of power lines on birds as part of environmental impact studies for new power lines.
- Comprehensive reporting to the electricity industry on all issues of wildlife interaction with the electricity grid through detailed quarterly reports to Eskom.
- Strategic input into Eskom's environmental policies.
- One of the most important objectives of my work was to ensure that scientific input was obtained on a continuous basis to inform the proposed mitigation strategies. It was furthermore my duty to ensure that the scientific community remained informed of new developments in this field through contributions at scientific conferences and workshops. Apart from regular contributions at scientific conferences and symposia, I also developed a comprehensive research portfolio funded by Eskom Research. This resulted in a continuous flow of research reports to Eskom on various issues pertaining to wildlife and power lines. These reports were used to inform Eskom's environmental management strategies pertaining to wildlife interaction management.

Below I have attempted to summarise the important milestones in my career since 1996:

- I established a national incident register for wildlife interactions for the whole of South Africa in 1996. This was the first attempt ever to quantify the incidence of wildlife mortality on electrification structures on a national scale. By November 2007, the register had 2953 records of wildlife mortality. This register serves as an important management and analyses tool to track the implementation of mitigation measures all over South Africa, and is used to inform the design of suitable mitigation measures for each individual locality. The data from this register is also used in multiple other ways, such as to identify the species that are most impacted upon and to discover trends in wildlife mortality.
- Formal recognition of wildlife interaction mitigation implementation as a key performance indicator in the Eskom Distribution Division. This important milestone ensures that the necessary incentive is there for recommendations to be implemented to reduce wildlife mortality.
- Formal recognition of a specialist bird impact assessment study as a standard component of all environmental impact processes for new Transmission lines. This was a key development in that it provided, for the first time, a scientific platform to assess the possible impacts of a proposed new line on birds. I did

the first ever specialist bird impact assessment study for a transmission line in 2000.

- By September 2007, 874 investigations into wildlife mortality on power lines had been completed under my supervision. I developed a standard protocol for these investigations which were performed by the staff of the EWT and myself. This has resulted in thousands of kilometres of power line being modified to prevent further wildlife mortality.
- One of my most important tasks was to act as ornithological consultant on the National Bird Guard Project Team. This was a multidisciplinary team operating within the Eskom Transmission Division that had to address the faulting caused by birds on transmission lines. The work done by this team resulted in the fitting of perch deterrents on 10 000km of transmission lines at a cost of R38m. This resulted in a 76% reduction of bird induced faults on the national transmission grid within 12 months.
- In 2001, I was approached by a USA utility company (in Texas) to assist them in reducing the bird faulting on a problematic transmission line. After investigations I developed a mitigation strategy for the line which resulted in a 98% reduction in faulting caused by birds. I subsequently consulted to other utilities in the USA and in New Zealand. I also regularly worked in Namibia and Botswana.
- I assisted with the development of the Bird Flapper, a South African device developed to reduce bird collisions with power lines.
- I presented the first ever training in electricity-wildlife interaction management to delegates of the Southern African Power Pool community in Kinshasa in the DRC. It was a major breakthrough when wildlife interaction training was included as a standard component of Eskom's training syllabus.
- The Edison Electric Institute Common Goals Award in the USA was awarded to the Eskom-EWT Partnership within one year of becoming operational, from a field of 61 international entries from 49 countries. In the course of my career at the EWT, I received four awards from Eskom in recognition of the work that I did in improving their environmental management systems. I was also nominated for an Eskom's Chairman's Award and was voted Northern Cape Raptor Conservationist of the Year by the Northern Cape Raptor Forum in 2004. The Eskom-EWT Strategic Partnership was a finalist in the 1998 and 2000 Green Trust Awards.
- I have been instrumental in several large research projects under the auspices of the Eskom-EWT Strategic Partnership. The research reports to which I contributed that resulted from these projects are listed below. The knowledge that was gained from this research resulted in vastly improved mitigation strategies for wildlife and power line conflicts throughout South Africa. The total research portfolio that I managed at EWT was in the order of about R500 000 a year.
- In 2005 I was one of a handful of international experts that was requested by the Avian Power Line Interaction Committee in the USA to review the next edition of the authoritative Suggested Practices for Mitigating Bird Electrocutions on Power Lines: The State of the Art in 2005. I made sure that the lessons that I learnt through my research in southern Africa was included.
- In July 2006 it was stipulated by the Directorate of Nature Conservation in Gauteng (GDACE) as part of their requirements for biodiversity assessments that where a development involves overhead lines (power lines or telephone lines) I must provide specialist input into the management plan.
- In 2005 I acted as co-supervisor (together with Dr. Alan Urlick) for a masters degree in Engineering Business Management from the University of Warwick

that dealt with the costs of electricity faults caused by birds on the Eskom grid.

Since my resignation from the EWT in November 2007, I continue to act as an advisor to Eskom and other industries on the management of wildlife, (particularly bird) conflicts with industrial infrastructure and developments. I have since broadened my scope beyond the electricity industry to general bird impact related work e.g., the impact of non electricity related industrial and residential developments on birds. In 2008, I was appointed as specialist consultant for a three-year period to assist the Namibian power utility, NamPower, and the Namibia Nature Foundation to forge a strategic partnership along the lines of the Eskom-EWT Strategic Partnership.

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**Bernard Oberholzer Landscape Architect + Environmental Planner**  
Professional Member of the South African Council for the Landscape Architects Profession  
Fellow of the Institute of Landscape Architects of South Africa

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### Brief Resumé

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- 35 years experience as a professional landscape architect, specialising in landscape research, environmental planning and environmental / visual assessments.
- Degrees in Architecture (UCT 1970), and Landscape Architecture (U. of Pennsylvania 1975).
- Currently a consultant, and part-time lecturer in the Master of Landscape Architecture Programme at UCT. Teaching includes a course on Terrain Analysis, which covers *inter alia* visual assessment techniques.
- Has presented papers on *Visual and Aesthetic Assessment Techniques*, at executive courses on Integrated Environmental Management (UCT), and at the CSIR.
- Author of *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes*, prepared for D:EADP, Provincial Government of the W. Cape, in association with CSIR, 2005.
- Specialist reviewer for a number of visual impact studies, prepared by other firms.

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### Selected List of VIA Projects

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**Du Toit's Kloof N1 Road and River Crossings**, Visual and Scenic Impact Assessment, for HKS Inc. and Dept. of Transport, 1988. (BOLA)

**Proposed Fish Hoek Bypass Road**: Visual and Aesthetic Impact Assessment, prepared for HKS Inc. 1991 (BOLA)

**Proposed Upgrading of Outeniqua Pass**: Visual and Aesthetic Impact Assessment, prepared for HKS Inc. 1991 (BOLA)

**Signal Hill and Lion's Head Nature Reserve**: Development and Management Plan, incl. visual assessment of cableway proposals, for Cape Town City Council, 1993. (BOLA)

**Chapman's Peak and Victoria Drive Scenic Routes**: Local Structure Plan, incl. visual and scenic resources, for Cape Metropolitan Council, 1993. (BOLA et al).

**National Road N7 Upgrade**: Visual assessment, mitigation measures and design guidelines, for PAWC and Jeffares & Green, 1997. (BOLA)

**Visual Guidelines for Communication Masts**: Design Manual prepared for Cape Metropolitan Council, 1998. (BOLA)

**Rietvlei Environmental Visitor Centre**: Visual Impact Assessment, for CSIR and Blaauwburg Municipality, 1998. (BOLA & MLB)

**Proposed Hotel Developments at Spier**: Visual Impact Assessment, for Spier Management (Pty) Ltd. 1999. (BOLA & MLB)

**Portnet Iron-ore Harbour Extensions, Saldanha**: Visual and Scenic Impact Assessment, prepared for SRK Consulting, 2000. (BOLA & MLB)

**Zeconi Optic-fibre Plant at Capricorn Park**: Visual and Scenic Impact Assessment, prepared for SRK Consulting, 2001. (BOLA & MLB)

**Proposed Wind Farm near Darling**, Western Cape: Visual Impact Assessment, for Environmental Evaluation Unit UCT, 2001 (BOLA & MLB)

**Pechiney Aluminium Smelter, Coega, Port Elizabeth**: Visual Impact Assessment prepared for CSIR, 2002. (BOLA & MLB)

**FiberCore Optic Fibre Plant, Somerset West**: Visual Impact Assessment, prepared for SRK Consulting, 2002. (BOLA & MLB)

**Port of Cape Town Container Terminal**: Visual Impact Assessment, prepared for CSIR, 2002. (BOLA & MLB)

**Proposed Fisantekraal Wastewater Treatment Works and Pipeline**: Visual Impact Assessment, for SRK and City of Cape Town, 2003. (BOLA & MLB)

**Proposed Power Plant at Oranjemund, Namibia**: Visual Impact Assessment, prepared for CSIR and NamPower, 2004. (BOLA & MLB)

**Proposed Regional Waste Site in Kalbaskraal / Atlantis area**: Visual Impact Assessment for CCA Environmental and City of Cape Town, 2005. (BOLA & MLB)

**Proposed Boschendal Founders Estate**: Visual Impact Assessment for Winter and Baumann, on behalf of Boschendal Estates, 2005. (BOLA & MLB)

**Proposed Aquaculture Project, Mossel Bay**: Visual Impact Assessment for CCA Environmental on behalf of Irvin & Johnson, 2007.

**Proposed Residential Development, Elands Bay**: Visual Baseline Study and Visual Impact Assessment for BKS on behalf of Midnight Storm Investments 170, 2008.

**Overstrand Landscape Heritage Survey**: Landscape Character Analysis, and Visual/Heritage Guidelines, for Winter and Baumann on behalf of the Overstrand Municipality, 2008.

**Proposed Normandy Farm Residential Development, Stellenbosch**: Visual Baseline Study for CCA Environmental, 2009. (BOLA & MLB)

**Proposed Residential and Commercial Development, Phase 2, Boschendal**: Visual Baseline Study and Visual Impact Assessment for Winter and Baumann on behalf of Boschendal Estates, 2009. (BOLA & MLB)

**Proposed Solar Power Plant near Touwsrivier**: Visual Scoping Report for the EEU (UCT), on behalf of Concentrix Solar, 2010.

**Proposed Renewable Energy Facilities in the Western and Northern Cape**: Visual Baseline Report for ERM (Cape Town), on behalf of Mainstream SA, 2010. (BOLA & MLB).

BOLA : Bernard Oberholzer Landscape Architect  
MLB : Meirelles Lawson Burger Architects

name : **Quinton Hugo Lawson**  
 date of birth : 28 July 1949 Maclear, Eastern Cape  
 ID n° : 490728 5102 085  
 education : Queen's College, Queenstown, Eastern Cape - 1961 to 1966  
 qualification : Bachelor of Architecture - University of Natal, Durban - 1972 to 1977  
 membership : Professional Architect - SA Council for the Architectural Profession  
 SACAP registration no: 3686 - 13/07/1984  
 Member of Cape Institute for Architects and SA Institute of Architects  
 CIFA registration no: 4759  
 employer : self-employed : MLB Architects cc  
 contact details : MLB Architects cc  
 2 Gordon Street, Gardens, 8001, Cape Town, RSA  
 PO Box 12145, Mill Street, 8010, Cape Town, RSA  
 mobile:.....+27 83 309 3338  
 phone:.....+27 21 462 0170  
 fax:.....+27 21 462 0179  
 email:.....[quinton@mlbarch.co.za](mailto:quinton@mlbarch.co.za)

#### Summary of Employment

1988 – current Member of MLB Architects, Cape Town  
 1984 – 1987 Partner and Design architect Revel Fox and Partners, Cape Town  
 1978 – 1984 Architect-in-Training at Revel Fox and Partners, Cape Town  
 1972 – 1977 Architectural Student in following offices:  
 Revel Fox and Partners, Cape Town  
 van Riet and Mansvelt Architects, Cape Town

#### Experience :

- Practicing professional architect since 1978, specialising in architectural and urban design, environmental design and computer visualisation.
- One of the founding partners of **Meirelles Lawson architects** formed in 1988, initially specialising in economic and sustainable housing.
- Currently partner at **MLB architecture and Urban Design**. Specialist expertise in visual and design evaluation and solutions.
- Visiting lecturer at UCT teaching post-graduate course on Computer Techniques in Landscape Architecture, including visualisation and visual assessment techniques.

#### Selected List of VIA Projects by MLB in association with Bernard Oberholzer Landscape Architect :

**Rietvlei Environmental Visitor Centre:** Visual Impact Assessment, for CSIR and Blaauberg Municipality, 1998. (BOLA & MLB)

**Proposed Hotel Developments at Spier:** Visual Impact Assessment, for Spier Management (Pty) Ltd. 1999. (BOLA & MLB)

**Portnet Iron-ore Harbour Extensions, Saldanha:** Visual and Scenic Impact Assessment, prepared for SRK Consulting, 2000. (BOLA & MLB)

**Zeconi Optic-fibre Plant at Capricorn Park:** Visual and Scenic Impact Assessment, prepared for SRK Consulting, 2001. (BOLA & MLB)

**Proposed Wind Farm near Darling, Western Cape:** Visual Impact Assessment, for Environmental Evaluation Unit UCT, 2001 (BOLA & MLB)

**Pechiney Aluminium Smelter, Coega, Port Elizabeth:** Visual Impact Assessment prepared for CSIR, 2002. (BOLA & MLB)

**FiberCore Optic Fibre Plant, Somerset West:** Visual Impact Assessment, prepared for SRK Consulting, 2002. (BOLA & MLB)

**Port of Cape Town Container Terminal:** Visual Impact Assessment, prepared for CSIR, 2002. (BOLA & MLB)

**Proposed Fisantekraal Wastewater Treatment Works and Pipeline:** Visual Impact Assessment, for SRK and City of Cape Town, 2003. (BOLA & MLB)

**Proposed Power Plant at Oranjemund, Namibia:** Visual Impact Assessment, prepared for CSIR and NamPower, 2004. (BOLA & MLB)

**Proposed Regional Waste Site in Kalbaskraal / Atlantis area:** Visual Impact Assessment for CCA Environmental and City of Cape Town, 2005 (BOLA & MLB)

**Proposed Madiba Bay Leisure Park, Port Elizabeth;** Visual Impact Assessment for Coastal Environmental Services and the Madiba Bay Municipality, 2005 (BOLA & MLB)

**Boschendal Founders' Estate, Pniel;** Visual Impact Assessment for Baumann & Winter Heritage Consultants and Boschendal Estates (PTY) LTD, 2005 - 2006 (BOLA & MLB)

**Proposed Gateway Precinct Developments at the V&AW;** Visual Impact Assessment for GAPP Architects and the V&AW, 2006 (MLB)

**Proposed Development of Boschendal Phase 2 Farmlands, Pniel;** Visual Impact Assessment for Baumann & Winter Heritage Consultants and Boschendal Estates (PTY) LTD, 2009 (BOLA & MLB)

**Proposed Renewable Energy Facilities in the Western and Northern Cape;** Visual Baseline Study for ERM Southern Africa and Mainstream SA, July 2010 (BOLA & MLB)

## Curriculum Vitae (as at Sept 2010)

**Name:** Jayson David John Orton

**Occupation:** Archaeologist

**Employer:** Archaeology Contracts Office (ACO), University of Cape Town

**Date of appointment:** Part-time: April 1999  
Full-time: June 2004  
Part-time: October 2008 (while studying)

### **Education:**

Matric	South African College High School	1994
B.A.	University of Cape Town	1997
B.A. (Hons) (Archaeology)*	University of Cape Town	1998
M.A. (Archaeology)	University of Cape Town	2004
D.Phil. (Archaeology)	University of Oxford	current

\*Frank Schweitzer memorial book prize for an outstanding student and the degree in the First Class.

### **Experience Record:**

Research assistant	Spatial Archaeology Research Unit University of Cape Town	1996 - 1998
Field archaeologist	Department of Archaeology University of Cape Town	1998
Field archaeologist	Archaeology Contracts Office University of Cape Town	1999 - 2004
Full-time archaeologist	Archaeology Contracts Office University of Cape Town	2004 -
Undergraduate Tutor	School of Archaeology University of Oxford	2008 - 2009

### **Other:**

South African Archaeological Society Council member	2004 -
Assoc. Southern African Professional Archaeologists (ASAPA) member	2006 -
ASAPA Cultural Resources Management Section member	2007 -

### **ASAPA accreditation (membership number 233):**

Principal Investigator (awarded 2007):	Coastal shell middens Stone Age archaeology
Field Director (awarded 2007):	Colonial period archaeology Rock art Grave relocation

### **Fieldwork and project experience:**

Extensive fieldwork as both Field Director and Principle Investigator in the Western and Northern Cape including the following:

#### Phase 1:

- Clanwilliam Dam & Cederberg surveys
- Central (Sutherland) and southern Karoo
- Southern Namaqualand (coastal and inland areas)
- Northern Namaqualand (coastal and inland areas)
- Numerous small surveys in Cape Town and surrounding suburbs as well as along the West and South Coasts and adjacent interior including the winelands
- Phase 1 shovel test excavations in historical and prehistoric sites

- Project types include mining, residential, commercial and industrial development, dams, pipe lines, power lines, wind energy facilities, etc

#### Phase 2:

- Duinefontein (ESA open site)
- Yzerfontein (MSA rock shelter & LSA open shell middens)
- Saldanha Bay (LSA shell midden with burials)
- Cederberg (LSA & MSA rock shelters)
- Richtersveld (LSA open sites)
- Paternoster (LSA open shell midden)
- De Beers Namaqualand Mines (ESA, MSA and LSA open sites and shell middens, occasional burials)
- Knysna (LSA open shell midden with burial)
- Franschoek (historic farmstead, historic well & LSA open site)
- Chavonnes Battery, V&A Waterfront (historical well, structure & dump)
- Prestwitch Place, Green Point (burial ground)
- Marina Residential, V&A Waterfront (burial ground)
- Many small historical excavations in Cape Town and surrounding suburbs

### **Selected relevant project experience**

- Rhebokfontein WEF Heritage Impact Assessment (2010)
- Gouda WEF Scoping Heritage Impact Assessment (2010)
- Exxaro WEF Scoping Heritage Impact Assessment (2010)
- Kerriefontein and Darling WEF Heritage Impact Assessment (2010)
- De Hoek power line (Piketberg) Notification of Intent to Develop (2010)
- Portion of Montagu-Barrydale power line Archaeological Impact Assessment (2009)
- Robertson Uitspan substation Archaeological Impact Assessment (2009)
- Kappa Substation Heritage Impact Assessment (2008)
- Omega Substation Scoping Heritage Impact Assessment (2004)
- West Coast 1 WEF (fieldwork only, 2010)
- Bedford WEF (fieldwork only, 2010)
- Eskom WEF, Namaqualand (fieldwork only, 2007)
- Atlantis Open Cycle Gas Turbines (fieldwork only, 2005)

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## Curriculum Vitae – Brett Williams

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**Name of organisation:** Safetech  
**Profession:** Occupational Hygienist  
**Position in Firm:** Owner  
**Date of Birth:** 21/04/1963

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### BIOGRAPHICAL SKETCH

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Brett Williams has been involved in Health Safety and Environmental Management since 1987, and has been measuring noise related impacts since 1996. Brett is the owner of Safetech who have offices in Pretoria and Port Elizabeth. He has consulted too many different industries including, mining, chemical, automotive, food production etc. He is registered with the Department of Labour and Chamber of Mines to measure environmental stressors, which include chemical monitoring, noise and other physical stresses. He has also been trained by the United States Environmental Protection Agency on air pollution measurement and dispersion modelling. He has submitted a doctoral thesis through the University of Pretoria for examination on the relationship between polluting organisations and the receiving community.

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### TERTIARY EDUCATION

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- National Diploma Health & Safety Management
- Bachelor of Arts (UPE)
- United States EPA Pollution Measurement course conducted at the University Of Cincinnati (EPA Training Centre)
- US EPA Dispersion Modelling Training Course
- Master of Business Administration (University of Wales) with dissertation on environmental reporting in South Africa.
- PhD - Currently registered at University of Pretoria. The thesis has been submitted for external examination and graduation is possible in 2011.
- Various Health & Safety Courses.
- Environmental Auditor (ISO 14001:2004)

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### KEY EXPERIENCE

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**Northern Office:** PO Box 80171, Doornpoort,  
 Pretoria, 0017 Tel: +27 (0)82 411 1571  
 Fax: +27 (0) 086 6579864

**Southern Office:** PO Box 27607, Greenacres, Port  
 Elizabeth 6057 Tel: +27 (0)41 3656846 / Fax: +27  
 (0)41 3652123 info@safetechsa.co.za /  
[www.safetechsa.co.za](http://www.safetechsa.co.za)  
 Safetrain cc T/A Safetech / Reg. No CK  
 /92/34818/23  
 VAT No. 4180135461



DOL Approved Inspection  
 Authority (CI049)

The table below presents an abridged list of Brett Williams' project experience relevant to this proposal:

- Crown Chickens – The independent report review of a noise specialist report conducted as part of an EIA to establish a new broiler farm
- BMW – The evaluation of the impact of the Rosslyn production facilities on the surrounding community.
- Victory Race Track - Specialist noise report conducted as part of an EIA to establish a new stock car racing track.
- Continental Tyre - The evaluation of the impact of production facilities on the surrounding community.
- Media 24 – The measurement portion of an investigation on the impact of a printing press on a local community. The main study was conducted by the University of Stellenbosch.
- Zwartebosh Quarry - Specialist noise report conducted as part of an EIA to establish a new quarry.
- Milo Granite - Specialist noise report conducted as part of an EIA to establish a new quarry.
- Dunlop Tyres - The evaluation of the impact of production facilities on the surrounding community.
- Sasol Secunda - Independent report review of a noise specialist report conducted to determine the impact of production facilities on the surrounding community.
- Barlow World Coatings - The evaluation of the impact of production facilities on the surrounding community.
- Western Platinum Refinery - The evaluation of the impact of production facilities on the surrounding community.
- CSIR – Noise Impact Study of Namwater Desalination Plant and Kouga Wind Turbine Project and the Namport Walvis Bay Port Container Terminal extension
- CES - Innowind Wind Energy Turbine Project, Grahamstown and Coega.
- CSIR - Noise Impact Study of Kouga, Cookhouse and Overberg Wind Turbine Projects
- Arcus Gibb - Noise Impact Study of Kouga Wind Turbine Project
- BKS –Department of Defence Noise Study (Classified)

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### LANGUAGES

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<i>Language</i>	<i>Speaking</i>	<i>Reading</i>	<i>Writing</i>
<i>English</i>	<i>Excellent</i>	Excellent	Excellent
<i>Afrikaans</i>	<i>Good</i>	Good	Fair



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**CERTIFICATION**

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I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe my qualifications, my experience, and me.



Brett Williams

# Kirsten Scott

## Personal Details

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Date of Birth: 11 June 1980  
Nationality: South African  
Tel: (+ 27 21) 650 2869  
Email: [Kirsten.Scott@uct.ac.za](mailto:Kirsten.Scott@uct.ac.za)

## Key Qualifications

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Kirsten has capabilities in both the social and environmental aspects of environmental management and is trained in interdisciplinary thinking. Key experience includes project management of a Social Impact Assessment in South Africa, as well as various socio-economic assessments for Environmental Impact Assessments (EIAs) in the UK. Other social experience includes desk based studies through application of World Bank standards to international projects, social audits and planning of public consultations and strategies. Sustainability experience includes sustainability appraisal within the UK. EIA responsibilities include project co-ordination and management, authoring of other technical elements of EIAs such as assessment of cumulative effects, land use assessments and pioneering reports as well as reviewing of other specialist chapters. Relevant industries include waterfront development, regeneration, planning and rural development, highways, power and waste.

## Education and Qualifications

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2004 -2005	Master of Environmental Science, School of Environmental Sciences, University of KwaZulu-Natal, Durban
2001	Bachelor of Science Honours (Geography) Geography Department, University of Natal, Pietermaritzburg
1998 -2000	Bachelor of Science (Zoology and Geography) University of Natal, Pietermaritzburg
1986 – 1997	Matric: Independent Examinations Board (IEB), 1997; A Aggregate Durban Girls' College, Durban, South Africa

## Research Project Titles

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Masters Thesis: *The Environmental Politics of the Proposed Small Craft Harbour, Durban: A Discourse Analysis Approach*

Honours Thesis: 'Cultural Tourism: A Case Study of the Midlands Meander'

## Conference Papers

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Scott, K. and Oelofse, C. 2005. *The environmental politics of the scoping phase of the development of a Small Craft Harbour, Point Waterfront, Durban*, Proceedings of the International Association for Impact Assessment Conference, South African Affiliate, ThabaNchu, 28-31 August 2005, 470-485.

Oelofse, C. and Scott, K. 2002. *The politics of alien vegetation: reconstructing the sense of place of Kloof, South Africa*, Presented at the International Geographer's Union Conference, Durban, 4-7 August 2002.

## Work Experience

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### Environmental and Social Consultant - Parsons Brinkerhoff Ltd, London, UK

#### August 2006 – December 2009

Responsible for developing the socio-economic capabilities for the UK Environmental Assessment and Management (EAM) Team and therefore involved in authoring a number of socio-economic and community assessments (approximately 12) for EIAs of large projects in the transport, waste, and regeneration industries. Other areas of capability includes project management, stakeholder consultation, cumulative effects assessment, land use assessment, assessments of all travellers, pioneering reporting, and sustainability assessment and appraisal.

### Selected Projects – Environmental Assessment and Management

*National Grid, Hurst to New Cross Cable Tunnels*, project co-ordinator for the production of two Environmental Reports to assess the impacts of a cable tunnel with associated shafts and headhouses, from Hurst to Eltham and Eltham to New Cross. Responsibilities also included client liaison, budget control and preparation of budget variations. Technical tasks included the drafting of the introductory chapters of the Scoping Report and Environmental Reports, the Non-Technical Summaries and input into the Preferred Route and Site Selection Report, as well as review of the other planning supporting documents.

*Devon County Council, Exeter Science Park*, assessment of the land use impacts as well as the cumulative environmental effects of the project for inclusion in the Environmental Statement. The development is part of the Growth Point to the East of Exeter.

*Transport for London, Greenwich Waterfront Transit (GWT)*, the production of the Environmental Appraisal of Route Options Report and Environmental Information for Consultation Report, as well as an assessment of the cumulative effects for inclusion in the Environmental Statement.

#### Selected Projects - Socio-economic and Community Assessment

*Edgar Street Grid (ESG) Hereford Regeneration Project*, socio-economic baseline conditions reporting for the project. Environmental scoping and assessment of the socio-economic and community impacts for inclusion in the Environmental Statement for the link road (Phase 1).

*Covanta Energy from Waste (EfW)*, assessment of the socio-economic and community impacts of the proposed EfW facility for inclusion in the Environmental Statement. Preparation of an addendum to submit in support of the planning application to update the assessment in the context of the recession.

*Devon County Council, East of Exeter J29 Improvements*, assessment of the Pedestrian, Cyclists, Equestrians and Community Effects following the Highways Agency's Design Manual for Roads and Bridges (DMRB) guidance for inclusion in the Environmental Statement.

*Devon County Council, Exeter Park and Ride (Alphington Junction)*, assessment of effects on humans and settlements for inclusion in the Environmental Statement.

*Olympic Delivery Authority (ODA) Energy Centres*, author of the Equalities Statement for submission with the Reserved Matters Planning Application.

*Ibom Power Plant and Transmission Line, Nigeria*, a review on behalf of the lenders, of the social compliance of the two EIAs for the proposed independent power plant (IPP) at Ikot Abasi and associated transmission line, to World Bank Social Safeguard Policies and Equator Principles and International Finance Corporation requirements.

#### Selected Experience - Stakeholder Involvement

*Highways Agency, M25 Rapid Widening (Section 4)*, input on behalf of PB in the revision and implementation of the overarching communication plan for the M25 Rapid Widening Scheme. Management and co-ordination of communication activities preceding the publication of the Environmental Statement for Section 4, including both stakeholder consultation and information sharing exercises. This involves identification and liaison with the relevant Statutory Environmental Bodies, Local Authorities and Parish Council / Ward representatives, organisation of events and review of outcomes. Production of a Consultation Report documenting the communication activities undertaken thus far on the project.

*ODA Energy Centres*, author of the Statement of Participation for submission with the Reserved Matters Planning Application.

*United Kingdom Atomic Energy Authority (UKAEA) Dounreay*, involvement in risk communication training for UKAEA officials.

#### Selected Experience - Sustainability

*ODA, Sustainability Audit* for the Lower Lea Valley Power Contractors, auditing of the social aspects of the operations of the power contractors commissioned by the ODA to undertake tunneling work to replace existing overhead power lines through the Lower Lea Valley.

*Tewkesbury Borough Council, Sustainability Appraisal (SA)*, involvement in the SA for Tewkesbury Borough as part of the preparation of its Core Strategy and Development Control Policies Development Plan Document (DPD). Role involved drafting of a Scoping Report.

*Crawley Borough Council, Sustainability Assessment*, the assessment and scoring of the sustainability of the identified strategic sites on the urban fringe of Crawley town which have the capacity to accommodate housing development options (including employment and community uses). Role involved meeting with the planning consultants and collaboration to identify options, assessment of the options in a matrix and author of the Sustainability Appraisal report.

#### **Project Manager - Social Impact Assessment (SIA) for the proposed Small Craft Harbour, Durban. Centre for Environmental Management, School of Environmental Science, UKZN January 2006 – June 2006**

Responsibilities included all aspects of co-ordinating the SIA: input into the design of the methodology; creation and maintenance of a stakeholder database; co-ordination of public participation and stakeholder workshops; attendance of specialist consultants workshops, compilation of social profile; collection of field data; analysis of data and report writing.

#### **Social Research Assistant - Scoping Report for the proposed Idube Trade Port, Durban (comprising the proposed King Shaka International Airport and associated trade zone). Centre for Environmental Management, School of Environmental Science, UKZN June 2006**

Responsibilities included assisting the EIA consultants with the creation of a social profile as a baseline for the social impacts of the airport and adjacent trade zones.

#### **Research Assistant - Mrs Cathy Sutherland; School of Environmental Science, UKZN November 2004 – February 2005**

Assisting with sourcing and compiling theory for a literature review used in a specialist report for the Addendum to the Scoping Report for the Small Craft Harbour, Durban.

#### **Research Assistant - Dr. Michael Sutcliffe; Chairperson of the Municipal Demarcation Board, South Africa. December 2001 – March 2002**

Research, analysis and report writing of the boundary demarcations of South African National Parks and World Heritage Sites.

**Materials Development Assistant – Jennifer Houghton: Project Manager - Wild Coast Environmental Research and Training Project (funded by WWF)**

**January 2002 – March 2002**

General administrative tasks, research and development of training materials to train traditional and elected leaders in natural resource management.

**Research Assistant - Mrs Cathy Sutherland; University of Natal, Durban, South Africa.**

**December 2001 – March 2002**

Research (design and administration of questionnaires and internet and library search) and co-author of the academic paper: “The politics of alien vegetation: reconstructing the sense of place of Kloof, South Africa”.