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## CURRICULUM VITAE

LES MOORE

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email: [cloudhill@bigpond.com](mailto:cloudhill@bigpond.com); [lesmoore3@bigpond.com](mailto:lesmoore3@bigpond.com)

**Expertise:** Tropical fauna ecology  
Ecology and management of threatened species  
Cassowary ecology and population dynamics  
Population viability analysis studies  
Survey design, methodology, and analysis  
Field techniques for ecological studies  
Avian ecology  
Small mammal ecology  
Pest and vermin ecology and management  
Field surveys of fauna & flora  
Temperate, arid and semi-arid fauna and flora ecology  
Temperate and arid zone plant identification  
Identification of Australian small mammals, birds & reptiles

## PROFESSIONAL EXPERIENCE

### **March 2004 – June 2007**

**PhD by research** through James Cook University Townsville (Zoology and Tropical Biology). PhD project: *Behavioural and evolutionary ecology of the sympatric Australian White-tailed Rats Uromys caudimaculatus and Uromys hadrourus.*)

### **July 2001 – March 2004**

**Environmental Scientist, Blue Mountains City Council, Katoomba NSW.** Responsible for flora and fauna conservation strategies, threatened species conservation and research, research to improve management of native flora and fauna, specialist advice into environmental protection and management policies, assessments of the environmental impact of developments, fox control program, and policies and program development for the restoration of environmental damage in the Blue Mountains region.

### **2000 - 2002**

**MSc by research** through James Cook University Townsville (Zoology and Tropical Ecology)

Project title: *Ecology and population viability analysis of the Southern Cassowary Casuarius casuarius johnsonii: Mission Beach, North Queensland.*

### **February 1999 - 2000**

University studies at Monash University and James Cook University.

### **July 1997 - February 2000**

**Managing Director –L.A & N.J. Moore P/L - Environmental Consultants**

Responsible for ecological studies in tropical and arid zone ecosystems, environmental impact assessment, Environmental Management Plans, fauna surveys, endangered species management.

### **November 1996 – July 1997**

**Senior Ecologist - Natural Resource Assessments Pty Ltd**

Responsible for designing and undertaking specialist ecological work including flora and fauna surveys in tropical and temperate ecosystems, environmental impact assessments, conservation management plans, and responsibility for planning and management of ecological projects.

**July 1983 – November 1996**

**Commonwealth Scientific Officer 5 - CSIRO Division of Wildlife and Ecology, Atherton, QLD**

Responsible for designing and undertaking specialist fauna research in upland and lowland tropical rainforest and associated ecosystems. Studies included work on threatened species, small mammals, birds, reptiles, frogs, and flora.

**May 1971 – July 1983**

**Senior Technical Officer - CSIRO Division of Wildlife and Ecology, Perth, WA**

Primary tasks included field and laboratory research on native fauna; formulating management plans for fauna of the south-west and central areas of Western Australia; undertaking extensive flora surveys; formulating management plans and captive breeding systems for endangered species.

## CASSOWARY PUBLICATIONS AND REPORTS

Moore, L.A. (2007 – in press). Population ecology of the Southern Cassowary *Casuarius casuarius johnsonii*, Mission Beach, north Queensland. *Journal of Ornithology*.

Moore, L.A. (2007 – at review). [Does the history of the Moa suggest a future for the cassowary? The dilemma of K-selected species in an unpredictable world.](#) *Biological Conservation*.

Moore, L.A. (2007 in prep). Implications of environmental catastrophes and climate change for management of an endangered species: the Southern Cassowary *Casuarius casuarius johnsonii*. *Austral Ecology*.

Moore, LA. (2007). Cassowary assessment of the ‘Ella Bay Integrated Resort Project’ North Queensland:

**Volume I** – Cassowary field survey

**Volume II** – Impacts and mitigation

**Volume III** – Population viability analysis (to be completed)

Consultancy reports for John Holland Pty. Ltd.

Moore, LA (2006). Cassowary survey and impact assessment of Jubilee Grove – Stage 2, Innisfail, North Queensland. Consultancy report for Biodiversity Assessment and Management Pty Ltd, Brisbane.

Moore, LA. (2006). Review of cassowary issues and management strategies and EPBC referral, Oasis Beachfront Resort, Mission Beach, North Queensland. Consultancy report for Biodiversity Assessment and Management Pty Ltd, Brisbane.

Moore, LA. (2006). Desktop assessment for Oasis Resort offset land at Mt Edna, Mission Beach, North Queensland. Consultancy report for Biodiversity Assessment and Management Pty Ltd, Brisbane.

Moore, LA. (2005). Review of cassowary issues and management strategies and EPBC referral, Oasis Beachfront Resort, Mission Beach, North Queensland. Consultancy report for Biodiversity Assessment and Management Pty Ltd, Brisbane.

Moore, L.A. (2003). MSc: Ecology and population viability analysis of the Southern Cassowary (*Casuarius casuarius johnsonii*): Mission Beach, North Queensland. Masters of Science thesis, Department of Zoology and Tropical Ecology, James Cook University, Queensland.

Moore, L.A. (2001). A field survey of the cassowary population of Mission Beach, North Queensland: Population number, densities, distribution, demography, and implications for conservation and management. *Report for Community for Coastal and Cassowary Conservation (C4)*, funded by the Wet Tropics Management Authority.

Moore L.A. (2000a). Surveying an Endangered Rainforest Species: Methods and Application.. The Southern Cassowary *Casuarius casuarius johnsonii*. Supplement to Masters of Science Thesis, James Cook University, Townsville.

Moore, L.A. (2000b). Literature survey, bibliography and museum specimen lists for the Southern Cassowary *Casuarius casuarius johnsonii*. Supplement to Masters of Science Thesis, James Cook University, Townsville.

Moore, LA (1999a). Cassowary Management Plan. I. Daintree. *Report for Wet Tropics Management Authority*.

Moore, LA (1999b). Cassowary Management Plan. II. Kuranda (Cairns). *Report for Wet Tropics*

*Management Authority.*

Moore, LA (1999c). Cassowary Management Plan. III. Innisfail. *Report for Wet Tropics Management Authority.*

Moore, LA (1999d). Assessment of cassowary populations at Mt Spec (Townsville) and the Cairns foothills. *Report for Wet Tropics Management Authority.*

Moore, LA. (1999e). Road Link Study - Southern Atherton Tablelands: A field survey to assess the major issues of road upgrades on selected Rare and Endangered fauna. *Report for Queensland Department of Main Roads.*

Moore LA. (1999f). Road Crossing Points and Management Strategies for Street Creek Cassowary #11. *Report for the Wet Tropics Management Authority.*

Moore LA. (1999g). Cassowary Road Crossing Strategy: Buchanan Creek Road, Daintree Lowlands. *Report for the Wet Tropics Management Authority.*

Moore LA. (1999h). Preliminary results of a field survey of cassowaries in the Innisfail Area, north Queensland. *A Report for the Wet Tropics Management Authority.*

Moore LA. (1999i). Road Crossing Strategies for cassowaries and other fauna: South Mission Beach Road, Mission Beach. *Report for Queensland Department of Main Roads.*

Moore, LA (1998a). Field survey of cassowaries in the Kuranda region (Cairns). *Report for Wet Tropics Management Authority.*

Moore, LA (1998b). Draft cassowary management plan for Daintree lowlands bioregion. *Report for Wet Tropics Management Authority.*

Moore, LA (1998c). Cassowary Conservation Roads: A Management Strategy and Road Upgrade Assessment for El Arish and Tully-Mission Beach Roads, Mission Beach. *Report for Queensland Department of Main Roads.*

Moore, LA (1998d). Impact Assessments of Proposed Road Re-alignments - East Evelyn and Sluice Creek Roads, Atherton Tablelands, north Queensland. Queensland Department of Main Roads.

Moore, LA (1997). Environmental Impact Assessment Study of the Daintree Power Line Proposal – Fauna. *Report for Far North Queensland Electricity Authority.*

Moore, LA (1996a). Cassowary assessment studies for Lot 157 Fan Palm Road, Daintree: *Report for Daintree Rescue Program*, Queensland Department of Environment.

Moore, LA (1996b). Cassowary assessment studies for Lot 52 Cooper Creek, Daintree: *Report for Daintree Rescue Program*, Queensland Department of Environment.

Moore, LA (1996c). Cassowary assessment studies for Lots 1 & 2 Buchanan Creek Road, Daintree: *Report for Daintree Rescue Program*, Queensland Department of Environment.

Moore, LA (1996d). Cassowary assessment studies for Lots 86 & 87 Cape Tribulation Road, Daintree: *Report for Daintree Rescue Program*, Queensland Department of Environment.

Moore, LA (1996e). Cassowary assessment studies for Cooper Creek National Park, Daintree: *Report for Daintree rescue Program*, Queensland Department of Environment.

Moore, LA (1996f). Cassowary assessment studies for Lot 6 BK157145 (6V) Alexandra Range Central Cow Bay, Daintree: *Report for Daintree Rescue Program, Queensland Department of Environment.*

Moore, LA (1996g). Survey of cassowary road crossing points on Buchanan Creek Road, Cow Bay: *Report for Daintree Rescue Program*, Queensland Department of Environment.

Moore, LA (1996h). Part 1: Cassowary Monitoring Program, Daintree lowlands: *Report for Wet Tropics Management Authority (WTMA).*

Moore, LA (1996i). Part 2: Cassowary Monitoring Program, Daintree lowlands: *Report for Wet Tropics Management Authority.*

Moore, LA. (1995a). Status of Cassowaries in proposed boardwalk area at Cow Bay, Daintree.

*Consultancy report for Natural Resource Assessments, Cairns.*

Crome, FHJ and LA Moore. (1993a). Cassowary populations and their conservation between the Daintree River and Cape Tribulation. Vol. 1 Summary. *A report to the Douglas Shire Council.*

Crome, FHJ and LA Moore. (1993b). Cassowary populations and their conservation between the Daintree River and Cape Tribulation. Vol. 2 Background, survey results and analysis. *A report to the Douglas Shire Council.*

Moore, LA and FHJ Crome. (1992). Report on a survey of cassowary populations in the Whitfield Range, north Queensland. *Internal Research Report. CSIRO 17/3/92.*

Crome, FHJ and LA Moore. (1990). Cassowaries in north-eastern Queensland: Report of a survey and a review and assessment of their status and conservation and management needs. *Austl Wildl. Res. 17:369-85.*

Crome, FHJ and LA Moore. (1988a). The cassowary's casque. *Emu 88: 123-124.*

Crome, FHJ and LA Moore. (1988b). The southern cassowary in north Queensland - a pilot study:

**Volume 1:** *Introduction, distributional survey and effects of habitat disturbance.*

**Volume 2:** *The biology of the cassowary: An analysis of information in cassowaries from the literature, zoos, museums and a public survey.*

**Volume 3:** *Techniques. An assessment of counting, trapping and handling methods and husbandry.*

**Volume 4:** *Summary and Management options.*

Reports prepared for the Queensland National Parks and Wildlife Service and the Australian National Parks and Wildlife Service.

## PROJECT EXPERIENCE

### FAUNA

#### BIRDS

##### *Cassowaries*

- Distribution, conservation status, and management of cassowaries in the Wet Tropics between Townsville and Cooktown (CSIRO).
- Cassowary survey of the Daintree lowlands (CSIRO).
- Cassowary survey of Mt Whitfield, Cairns (1992) (CSIRO).
- Daintree lowlands Cassowary Monitoring Program (WTMA).
- Ecology of cassowaries at Mt Bartle Frere, Atherton Tablelands (CSIRO).
- Assessment of the impacts of a boardwalk on resident cassowaries at Cow Bay, Daintree. (WTMA).
- Cassowary assessment of Lot 157 Fan Palm Road, Daintree (WTMA).
- Cassowary assessment of Lot 52 Cooper Creek, Daintree (WTMA).
- Cassowary assessment of Lots 1 & 2 Buchanan Creek Road, Daintree. (WTMA).
- Cassowary assessment of Lots 86 & 87 Cape Tribulation Road, Daintree (WTMA).
- Cassowary assessment of Cooper Creek National Park, Daintree (WTMA).
- Cassowary assessment of Lot 6 BK157145 (6V) Alexandra Range central Cow Bay, Daintree.
- Buchanan Creek Road cassowary crossing points, Daintree (WTMA).
- Expert fauna witness in Navicio Pty Ltd vs Douglas Shire Council (WTMA).
- Field surveys and detailed Regional Cassowary Management Plans for the Wet Tropics Management Authority (18 months project ) - Daintree, Kuranda, Innisfail, Cairns foothills, Mt Spec (WTMA).
- Cassowary road management strategy for El Arish-Mission Beach and Tully-Mission Beach Roads (QDMR).
- Cassowary road management strategy for South Mission Beach and Wheatley Roads, Mission Beach (QDMR).
- Field survey of Mission Beach cassowary population: total number, demography, individual adult location, estimated home ranges, and threatening processes (MSc).

- MSc project: Ecology and population viability analysis of the Mission Beach cassowary population, Mission Beach, north Queensland (MSc).
- Cassowary assessment of the 'Ella Bay Integrated Resort Project' Innisfail, North Queensland.
- Cassowary survey and impact assessment of Jubilee Grove – Stage 2, Innisfail, North Queensland.
- Review of cassowary issues and management strategies and EPBC referral, Oasis Beachfront Resort, Mission Beach.
- Desktop assessment for Oasis Resort offset land at Mt Edna, Mission Beach, North Queensland.

### ***Emus***

- Study of movements of emu and resultant impacts on WA wheat belt areas (CSIRO).
- Life history studies of emu (CSIRO).
- Captive breeding studies of emu (CSIRO).

### ***Corvus, Quail, Ducks and Pigeons***

- Captive breeding studies of corvids, quails, ducks and pigeons (CSIRO).
- Captive breeding studies of Australian fruit pigeons (CSIRO).
- Field studies on the ecology of stubble, brown, red-chested, and little Quail, including banding programs and studies on reproduction and diet (CSIRO).
- Field studies on the ecology of quail, ducks and pigeons including analysis of diet and reproduction to aid in setting hunting seasons and quotas (CSIRO).

### ***Water Fowl***

- Field studies throughout south-east SA for the South Australian Government to determine hunting season and quotas for waterfowl hunting - 2 year project (CSIRO).
- Field studies on the ecology of waterfowl in the Coorong, SA - 2 year project (CSIRO).
- Field studies on the ecology of waterfowl on Lake George, NSW (CSIRO)..

### ***Miscellaneous Bird Studies***

- Numerous studies throughout Australia incorporating bird census (point counts, transects, circular plots, and my own methodology), and field surveys of arid, temperate, alpine, and tropical birds (CSIRO).
- Survey of corvids (crows and ravens) in central NSW, QLD, VIC, SA, NT, WA: included field surveys and ecological studies; laboratory studies; effects of predation on lambing flocks (CSIRO).
- Dietary studies of Australian birds (CSIRO).

- Microscopy of gonads, pituitary and adrenal glands of Australian birds (CSIRO).
- Life history studies of the Splendid Blue Wren and Blue-breasted Wren (CSIRO).
- Assessment of the risk of bird strikes at Perth Airport (CSIRO).
- Studies of offshore multi-season breeding in Silver Gulls (CSIRO).
- Ecological studies of three species of Wood-swallows (CSIRO).
- Field studies to determine management options for the introduced Indian turtledove in Adelaide, South Australia (CSIRO).
- Field studies on the ecology of the Brush Bronzewing, Coorong, SA (CSIRO).
- Field and captive studies on the ecology of birds of prey from NSW, Victoria and Queensland, including moult, plumage, behaviour and reproduction (CSIRO).
- Life history studies of White-winged Choughs and Apostle Birds (CSIRO).
- Bird survey of Shark Bay, WA (CSIRO).

### ***Parrots***

- Life history studies on the Australian Galah in WA wheatbelt and the Murchison (CSIRO).
- Ecology of Red-tailed Black Cockatoo (CSIRO).
- Distribution studies of Baudin's Black Cockatoo in south-west WA (CSIRO).
- Nesting studies of the cockatiel (CSIRO).
- Studies into diet of wheatbelt parrots and development of dietary analysis techniques for corellas, galahs, 28 parrots, mulga parrots and regent parrots (CSIRO).
- Ecology of long and short-billed corellas (CSIRO).

### ***Forest and Rainforest Birds***

- Surveying bird distribution in wet sclerophyll forest to aid in fire management (CSIRO).
- Effect of forest fragmentation on bird and mammal fauna of the Atherton Tablelands (CSIRO).
- Use of fragmented ecosystems by birds and mammals on the Atherton Tablelands (CSIRO).
- Effects of logging on rainforest birds, mammals and vegetation, Windsor Tablelands (CSIRO).
- Display-site constancy of the tooth-billed bowerbird, north Queensland (CSIRO).
- Bower distribution and site fidelity of the golden bowerbird, Windsor and Atherton Tablelands (CSIRO).
- Genetic variation and ecological studies of the Northern Log Runners (CSIRO).
- Bird surveys of rainforest and associated habitats in north Queensland and CYP (CSIRO).

### *Noisy Scrub Bird and other WA endangered species*

- Field and laboratory studies on the conservation and management of the Noisy Scrub-bird, Western Bristlebird and Western Whipbird (CSIRO).
- Development of techniques for breeding the Noisy Scrub-bird in captivity for relocation (CSIRO).
- Developing and maintaining extensive insect breeding systems as food source for captive Noisy Scrub-birds (CSIRO).

### MAMMALS

- PhD on the evolutionary ecology of the rare rainforest rodent *Uromys hadrourus*.
- Field studies of small rainforest mammals (PhD studies)
- Captive breeding studies of the Black-footed Tree Rat, *Mesembriomys g. gouldii* (CSIRO).
- Survey of *Rattus sordidus* in upland sugar cane plantations (CSIRO)..
- Genetic variation of the endemic rainforest rodent *Melomys cervinipes* in forest fragments.
- Utilisation of rehabilitation plantings by small mammals at Pelican Point, Lake Tinaroo, Atherton Tablelands.
- Effect of fragmentation on small mammals, Atherton Tablelands (CSIRO)..
- Use of remnant riparian systems by small mammals, Atherton Tablelands (CSIRO)..
- Effects of logging on rainforest mammals, Windsor Tablelands, NQ (CSIRO)..
- Ecology of upland rainforest ringtail possums (*Pseudocheirops archeri*, *Pseudochirus herbertensis* *Hemibelideus lemuroides*).
- Field study of house mouse plagues, South Australia (CSIRO).
- Mammal surveys of heath and associated habitat, West Australia (CSIRO).
- Two-year fauna survey of small mammals at Cape Flattery dune field, Cape York Peninsula.
- Field survey of the Cape York Rock-wallaby *Petrogale coenensis*.
- Field survey of the Northern Hopping Mouse (*Notomys aquilo*) at two potential landfall locations of proposed gas pipeline, Cape York Peninsula (Chevron).
- Mammal surveys of rainforest and associated habitats in north Queensland and Cape York Peninsula (CSIRO)..
- Mammal surveys of the Blue Mountains region.

### *Feral Animals*

- Survey of feral pig distribution and impacts in Daintree region (CSIRO).
- Survey of feral pigs between Townsville and Cooktown, north Queensland (CSIRO).
- Surveys of wild goats in Murchison WA and effect of trapping on population reduction (CSIRO).
- Survey of feral cats and development of control methods in wheat belt area of WA (CSIRO).

### **VEGETATION SURVEY AND BOTANICAL EXPERIENCE**

- Acting divisional botanist from 1974 to 1984, Perth, WA (CSIRO).
- Extensive vegetation surveys throughout central and southern WA (CSIRO).
- Flora survey of Two Peoples Bay Fauna Reserve, Albany (ca. 700 spp) (CSIRO).
- Vegetation mapping of the Blue Mountains LGA.

### **MANAGEMENT PLANNING EXPERIENCE**

- Participation in three management plans for Two Peoples Bay Fauna Reserve, WA (3 volumes: birds, mammals and flora) (CSIRO & CALM).
- Member of Cassowary Recovery Team, Wet Tropics (CSIRO).
- Management Plan for Hasties Swamp, Atherton Tablelands (CSIRO).
- Environmental Management Plan for Stuart Creek, Townsville.
- Environmental Management Plans for three Queensland ports (covering mangrove, foreshore, rainforest, swamp habitats)
- Management plans to mitigate the impacts of sand mining at Cape Flattery Silica Mine on the flora and fauna within the mining lease (inside and adjoining the mine path).
- Assessment of the impacts on environmental resources (rare, vulnerable and endangered species of fauna and flora) of providing grid power for land north of the Daintree River. A range of management options were presented including the provision of individual and community RAPS instead of grid power. Management options for dealing with flow-on development were also provided.
- Management plans for sites within a number of National Parks in the Wet Tropics including Tully Falls NP, Daintree NP, Palmerston NP.
- Researched and wrote Regional Cassowary Management Plans for the Wet Tropics Management Authority (Daintree, Kuranda, Innisfail).
- Review of Environmental Factors:
  - Pretty Beach, Cairns
  - Turtle Cove, Cairns
  - Evelyn Tablelands, Millaa Millaa
  - Edmonton Cane Rail

Bruce Highway, Ingham

Link Roads, Atherton Tablelands

- Vegetation and Land Management Plan for the Megalong Valley, Blue Mountains region.

#### **ENVIRONMENTAL PLANNING AND RESEARCH - AGRICULTURAL SYSTEMS**

- Impact of emus, galahs and cockatoos on grain production and storage (CSIRO).
- Assessment of the risk of hares to aircraft at SA airport (CSIRO).
- Population dynamics of *Mus musculus* in agricultural areas of South Australia and effects of natural predator controls (CSIRO).
- Impact and control of crows, foxes and dingos on lambing flocks in NSW, VIC, SA and QLD (CSIRO).
- Population dynamics of wild rabbits and measurements of their effect on pasture quality (NSW, QLD, VIC) (CSIRO).
- Effects of western Long-billed Corella on sunflower seed plantations in WA (CSIRO).
- Study into damage by silver-eye to vineyards and development of control methods (CSIRO).
- Surveys of dingos in the Murchison and development of field assessments to measure dingo damage to sheep (CSIRO).

#### **MINE SITE REHABILITATION AND IMPACT ASSESSMENT**

- Advisor to ALCOA WA on vegetation rehabilitation techniques and plant species selection (CSIRO).
- Advisor to ALCOA WA on methodology to evaluate re-invasion of rehabilitated areas by fauna (CSIRO).
- Assessment of the impact of caustic holding ponds on native birds (ALCOA WA).
- Environmental Impact Study of proposed uranium mine at Yeeliree Station, WA.
- Management plan for several species of endemic rodents in the Cape Flattery dune field.
- Development of mine rehabilitation criteria for monitoring fauna recolonisation, Cape York Peninsula.

#### **ENVIRONMENTAL PLANNING AND IMPACT STUDIES**

- Environmental impact assessment on fauna of development at University Heights (Cairns).
- Environmental impact assessment of subdivision and rezoning applications in the Cairns region.
- Assessment of impacts by army training procedures on bird and small mammal fauna at the Jarra Creek jungle training area.
- Environmental impact assessments on a number of proposed ecotourism developments in the Cairns region.

- Environmental impact assessment of wind turbines on the flora and fauna of Thursday Island, with particular emphasis on migratory birds.
- Environmental impact assessment of landfall facilities of proposed gas pipeline (Chevron).
- Environmental impact assessment of proposed gas pipeline route from Bamaga to south of the Jardine wetlands (Chevron), with recommendations for alternative routing.
- Field survey of the Cape York Rock-wallaby at Coen, with reference to environmental impacts of proposed gas pipeline (Chevron).
- Fauna surveys and impact assessment at Woodstock Townsville Industrial Land Project, Townsville.
- Detailed EIA (flora, fauna, World Heritage values) of the Daintree region of north Queensland, to assess the likely impacts of introducing power to the area (FNQEB).
- Fauna survey and impact assessment of proposed road and rail access route to the Port of Townsville (including impacts on mangroves, remnant vegetation pockets, urban parkland, saltmarsh and savanna woodland areas).
- Impact Assessments of Proposed Road Re-alignment - East Evelyn and Sluice Creek Roads, Atherton Tablelands, north Queensland.