



## STEVEN MOLINO

### Current Role

Company Principal

### Qualifications

Bachelor of Science  
(Physical Geography  
and Environmental  
Chemistry). University  
of New South Wales

Bachelor of Engineering  
(Civil) (Hons).  
University of New South  
Wales

Exemplar Global  
Certified Lead  
Environmental Auditor  
(13515)

### Affiliations

Member, Engineers  
Australia

Registered Professional  
Engineer NPER 3 Civil  
and Environmental  
(1053737)

## Proposed Role: Project Manager and Waterway Assessments

### My Accountabilities on this Project

- Day to day running of project
- Waterway impacts
- Review of specialist reports
- Client liaison

### Why my track record, experience and character makes me ideally suited to this project:

I have been working in environmental impact assessment and management for more than 35 years and has prepared scores of EISs, REFs and SEEs often for linear infrastructure projects. Much of this work has included the assessment of impacts in national parks, nature reserves and state recreation areas. This included power line upgrades through Mt Keira State Recreation Area, Mulgoa Nature Reserve and Western Sydney Parklands. I was the project manager for the 1995 EIS for the proposed Warragamba Flood Mitigation Dam which had the potential to impact on parts of Blue Mountains, Kanangra Boyd and Nattai national parks.

Since 1995 I have assessed the impacts of several proposals related to the refurbishment and upgrade of Scenic World Katoomba which sits on the edge of Blue Mountains National Park. This has included two replacements of the Skyway which travels over a section of Blue Mountains National Park and required NPWS approval under Part 5 of the EP&A Act. I also negotiated land swaps and transfers which saw a large parcel of privately owned land transferred to the Blue Mountains National Park estate.

Steven has particular expertise in water cycle management and the assessment of impacts in waterways..

### Lessons learnt from my past project experience that will be relevant on this program:

While there is a statutory obligation to consider all aspects of a project's impacts on the environment, a key to optimal option selection and expeditious environmental approval is to be able to identify early the key environmental issues and what trade-offs and mitigation measures will be acceptable. This requires a keen understanding of client objectives and needs and the ability to listen carefully to stakeholder concerns and objections. Across a range of public and private sector projects, some straightforward and others quite controversial, I have learned to distil the most important issues so that these can be addressed to the mutual satisfaction of all. This applies equally to option evaluation, impact assessment and project auditing. .

## Track Record & Relevant Experience

---

**Project:** Warragamba Dam Safety Upgrade

---

*Client/Location:* Sydney Water – Sydney, NSW

*Role & Company:* Project Manager, ERM then Molino Stewart

*Duration of Role:* 1992– 1997

*Description and Relevance of Project:*

Warragamba Dam supplies more than 80% of Sydney's Drinking Water but was found to not meet current dam safety standards. The State Government at the time decided that while the dam was being upgraded, the opportunity should be taken to provide flood mitigation capacity to protect more than 60,000 people downstream for the impacts of floods. The project could have potentially impacted more than 75 square kilometres of national parks and wilderness areas, over 200 kilometres of the Hawkesbury Nepean River system and in excess of 400 square kilometres of floodplain. This was a highly controversial project requiring extensive stakeholder consultation. A change in government resulted in a side spillway being proposed around the Dam to improve its safety and no flood mitigation provided. This project had mainly localised impacts from the excavation of more than 2 million m<sup>3</sup> of sandstone and its emplacement within bushland.

*Key Relevant Tasks Performed:*

- Detailed investigation of flood damages downstream
- Co-ordination of the work of more than 50 environmental specialists
- Presentations to an interdepartmental committee
- EIS writing and editing
- Extensive community and stakeholder engagement

*Outcomes & Accomplishments Achieved:*

- Cutting edge research into urban flood damages and the impacts of inundation on ecosystems
- Two major EISs which continue to be used as reference documents for a variety of issues on the Hawkesbury Nepean River

---

**Project:** Botany Bay Electrical Cable Route Selection

---

*Client/Location:* Energy Australia – Sydney, NSW

*Role & Company:* Project Manager, Molino Stewart

*Duration of Role:* Jan 05 – Dec 06                      Value: \$80m

*Description and Relevance of Project:*

A dual 132kV cable was installed under Botany Bay, linking Bunnerong and Kurnell substations to strengthen Sydney's electricity system. There were several environmental issues which constrained both the route selection and the construction methods. This included protected seagrass beds, terrestrial endangered ecological communities, sites of national heritage significance to indigenous and non-indigenous Australians, water quality impacts from dredging and the need to lay the cables through a busy shipping channel.

*Key Relevant Tasks Performed:*

- Identified key environmental issues
  - Engaged and supervised environmental specialists to undertake studies
  - Prepared an environmental constraints report
-

- Participated in route selection workshops with the design engineers

*Outcomes & Accomplishments Achieved:*

- Environmental constraints accurately identified and mapped
- A route selected which met Energy Australia's objectives and which addressed stakeholder concerns

***Project: Chaffey Dam Environmental Assessment***

---

*Client/Location:* State Water – Sydney, NSW

*Role & Company:* Project Manager, Molino Stewart

*Duration of Role:* Jul 2011 – Nov 2011

*Description and Relevance of Project:*

Chaffey Dam is a major irrigation and town water supply dam in the Peel River catchment upstream of Tamworth. It was proposed to augment its storage and supply capacity by increasing the height of the earth and rockfill dam wall by 8m. This required the preparation of an environmental assessment to accompany an application to the Director General of Planning for requirements for preparation of an EIS under the newly gazette Part 5.1 of the Environmental Planning and Assessment Act for State Significant Infrastructure.

*Key Relevant Tasks Performed:*

- Reviewed past studies
- Identified key environmental issues
- Prepared an environmental assessment report

*Outcomes & Accomplishments Achieved:*

- Director General's requirements for an EIS issued

***A Selection of other relevant projects in the past 10 years includes***

---

- **Kemps Creek Transmission Line Maintenance REF** (*Integral Energy*). – Project Director.
  - **Mulgoa Transmission Line Vegetation Management REF** (*Integral Energy*). Project Director
  - **Mt Kiera Transmission Line REF** (*Wollongong Council*) Project Director
  - **Scenic World Redevelopment SEE** (*Hammon Holdings*). Project Director.
  - **Scenic World Katoomba Extended Trading Hours SEE** (*Hammon Holdings*). Project Director
  - **Scenic World Fire Services Upgrade SEE** (*Hammon Holdings*). Project Director
  - **Scenic World Electricity Supply Upgrade SEE** (*Hammon Holdings*). Project Director
  - **Scenic World 70<sup>th</sup> Birthday Rock Concert SEE** (*Hammon Holdings*). Project Director
  - **Hill End Road Upgrade REFs** (*Mid-Western Regional Council*). Project Director.
  - **St Marys Hazardous Waste Facility Part 3A Assessment** (*Tox Free*) Project Director.
  - **Great Western Highway Upgrade PEA** (*Roads and Traffic Authority*). Project Director
  - **Hume Dam Southern Training Wall REF** (*State Water*). Project Director
  - **Chaffey Dam Supply Augmentation Part 5.1 EIS** (*State Water*) Project Manager
  - **Burrendong Dam Safety Upgrade REF** (*State Water*). Project Manager
  - **Burrendong Dam Water Quality Upgrade REF** (*State Water*). Project Director
-

- **Southern Freight Link Early Works Assessments** (*Southern Freight Link Alliance*) Project Director
  - **Roadside Gravel Pits - 12 REFs** (*Young Shire Council*) Project Director
  - **Parramatta River Boardwalk REF** (*Parramatta City Council*) Project Director
  - **Macquarie River Pipeline EIS** (*Orange City Council*) Option Evaluation and EIS Chapter Writing
  - **Tyreel Weir Fish Ladder REF** (*State Water*) Project Director
  - **Tyreel Regulator Fish Ladder REF** (*State Water*) Project Director
  - **Marebone Break Fish Ladder REF** (*State Water*) Project Director
  - **Gunningbar Fish Ladder REF** (*State Water*) Project Director
  - **Mulgoa Transmission Line Vegetation Management REF** (*Integral Energy*). Project Director
  - **St Marys Hazardous Waste Facility Part 3A Assessment** (*Tox Free*) Project Director.
  - **Katoomba Scenic Railway Redevelopment SEE** (*Hammon Holdings*). Project Director.
  - **St Columbas High School Extension SEE** (*Catholic Education Office*) Project Manager
  - **Rothwell Park Upgrade REF** (*City of Canada Bay*) Project Director
  - **Harvey Park Upgrade REF** (*Blacktown City Council*) Project Director
-



**REBECCA  
O'ROURKE**

### **Current Role**

Ecologist

### **Qualifications**

Bachelor of Science  
(Biology) (First Class  
Honours), The  
University of Sydney  
2017

ITAR Animal Ethics  
Certified

NPWS Animal Research  
Licence

### **Proposed Role: Ecologist**

#### **My accountabilities on this project**

- Site inspections
- Targeted surveys

#### **Why my track record, experience and character make me ideally suited to this project:**

Since working with Molino Stewart I have undertaken a variety of ecological assessments across the Sydney region to support development proposals. I have performed targeted flora and fauna surveys, supervised vegetation clearing protocols, provided GIS analysis and mapping skills, and prepared a variety of detailed reports to support developments and infrastructure.

I graduated from The University of Sydney with a first class honours degree in 2017. During my honours year I investigated the habitat selection of reintroduced eastern pygmy possums and brown antechinus, and the potential for competition over common resources with invasive black rats. During this year I developed skills in designing and conducting both flora and fauna surveys. In addition I utilised the ESRI ArcGIS suite to map the location of radio tracked animals and statistically analysed kernel density hotspots with reference to on-ground vegetation. Using ArcGIS in my honours year enabled me to strengthen skills I had gained during my undergraduate degree.

I was an ecology intern for six months with the Australian Wildlife Conservancy in regional Western Australia. Throughout this time I became proficient in: animal trapping (pitfall, cage, hand netting, and Elliot traps), radio tracking animal handling and tagging, taking DNA samples, animal husbandry, the use of wildlife cameras and spotlighting.



*Duration of Role:* October-November 2019

*Description and Relevance of Project:*

Molino Stewart was engaged to prepare a Vegetation Management Plan and Nest Box Management Plan with particular attention paid to the retaining and revegetating good quality habitat in the riparian corridor on-site.

**Project:** *Flora and Fauna Assessment, Proposed rezoning at Kiama*

---

*Client/Location:* Independent Client

*Role & Company:* Environmental Scientist, Molino Stewart

*Duration of Role:* July-August 2019

*Description and Relevance of Project:*

An independent client purchased land in Kiama, south of Sydney, with the intention of rezoning from agricultural use to residential use. Molino Stewart was engaged to prepare a Flora and Fauna Assessment report with particular attention paid to the impact of clearing a section of Illawarra sub-tropical rainforest which is a recognised endangered ecological community.

*Key Relevant Tasks Performed:*

- Perform flora and fauna surveys
- Prepare report
- Provide GIS vegetation mapping

**Project:** *Biodiversity Assessment, Proposed State Significant Development in Kings Park*

---

*Client/Location:* Barker Ryan Stewart

*Role & Company:* Environmental Scientist, Molino Stewart

*Duration of Role:* June-August 2019

*Description and Relevance of Project:*

An auto-recycler based in Kings Park proposes to make adjustments to existing buildings and extend internal roads. Molino Stewart was engaged by Barker Ryan Stewart to prepare a Biodiversity Assessment as the proposed works are considered to be a state significant development. The assessment investigated the impacts of the proposed works on remaining vegetation on-site.

*Key Relevant Tasks Performed:*

- Perform flora surveys
- Prepare report
- Provide GIS vegetation mapping

**Project:** *Flora and Fauna Assessment, Proposed redevelopment in Marrickville*

---

*Client/Location:* Benson McCormack Pty Ltd

*Role & Company:* Environmental Scientist, Molino Stewart

*Duration of Role:* June – July 2019

*Description and Relevance of Project:*

Benson and McCormack propose to demolish existing properties and construct a two-level apartment block at Marrickville in Sydney's inner west. Molino Stewart was engaged to prepare a flora and fauna report to assess the potential impacts of the development on the biodiversity of the surrounding area.

---

*Key Relevant Tasks Performed:*

- Perform flora and fauna surveys
- Prepare report
- Provide GIS vegetation mapping

**Project:** *Ecological Statement for the proposed extension works at 34 Davis Road, Wetherill Park*

---

*Client/Location:* PDS Group

*Role & Company:* Environmental Scientist, Molino Stewart

*Duration of Role:* April 2019 – May 2019

*Description and Relevance of Project:*

PDS Group was commissioned to construct a hardstand extension to existing property at 34 Davis Road, Wetherill Park. The majority of the land is cleared of vegetation with the exception of a few scattered remnant trees and some planted trees and shrubs. Molino Stewart was engaged by PDS Group to prepare an ecological statement to assess whether the proposed works would impact remnant vegetation.

*Key Relevant Tasks Performed:*

- Perform flora surveys
- Prepare statement report
- Provide GIS vegetation mapping

**Project:** *Vegetation Management Plan and Controlled Activity Approval Report for Opal Aged Care Facility in Toongabbie*

---

*Client/Location:* Pact PM

*Role & Company:* Environmental Scientist, Molino Stewart

*Duration of Role:* March 2019-February 2020

*Description and Relevance of Project:*

It is proposed to construct a retirement aged care facility at Toongabbie in Western Sydney. Parramatta Council provided feedback on planning and environmental constraints for the site. These constraints included the adjacent Girraween Creek and W1 riparian area. As a result of the feedback provided by Council, the property owner engaged Molino Stewart to provide a Controlled Activity Approval and Vegetation Management Plan (VMP) to support a Development Application to Council for the proposed works.

*Key Relevant Tasks Performed:*

- Onsite inspection of existing vegetation to inform best practices in VMP
- Provide GIS support and analysis specifically for vegetation mapping
- Prepare CAA and VMP reports

**Project:** *Vegetation Management Plan and Controlled Activity Approval for 85 Wahrenonga Road, Kanwal*

---

*Client/Location:* Oaktree Group

*Role & Company:* Environmental Scientist, Molino Stewart

*Duration of Role:* March 2019 – August 2019

*Description and Relevance of Project:*

Central Coast Council granted conditional approval from for a self-care retirement village in Kanwal, NSW. The Conditions of Consent required preparation of a vegetation management plan and

---



controlled activity application. Constraints on the site include remnant vegetation, and Endangered Ecological Community, threatened species habitat, mapped drainage lines and bushfire hazard. Due to the proximity of the proposed works to a prescribed creek, I conducted desktop research and prepared a controlled activity approval (CAA) to support the DA. Furthermore, a vegetation management plan (VMP) was required with the CAA, which I edited from a previous version submitted to council which outlined the plans for trees for retention and removal, ongoing maintenance, and ongoing monitoring plans for the client. I then oversaw tree clearing and protection in accordance with the VMP to maintain a bushfire asset protection zone.

*Key Relevant Tasks Performed:*

- Updated VMP and prepared CAA submission
- Marked trees for retention and removal based on ecological value and according to APZ protocol
- Oversaw vegetation removal and ensured the safe handling and relocation of affected fauna
- Prepared a report on vegetation removal and fauna relocation
- Provided GIS support and analysis specifically for vegetation mapping and zoning of the site for permanent and temporary vegetation conservation structures

**Project:** *Ecology Intern Involved in Several Threatened Fauna Monitoring and Reintroduction Projects*

**Client/Location:** Australian Wildlife Conservancy (AWC), Mount Gibson Sanctuary, Western Australia

**Role & Company:** Ecology Intern

**Duration of Role:** July 2018-December 2018

*Description and Relevance of Project:*

During my time as an intern with AWC I partook in several translocations of endangered mammals to a feral free enclosure in Western Australia. This involved trapping animals using a variety of trap types, processing animals by attaching tracking devices and collecting DNA samples, engaging in animal husbandry practices where necessary, recording and analysing raw data, and finally releasing and monitoring animals with camera traps, radio tracking and GIS mapping.

*Key Relevant Tasks Performed:*

- Animal Handling, trapping, identification, and monitoring
- Analysis of data
- Mapping animal locations

**Project:** *Reintroducing Natives into a Aliens Domain*

**Client/Location:** North Head Sanctuary, Australian Wildlife Conservancy (AWC)

**Role & Company:** Honours Student, The University of Sydney

**Duration of Role:** January 2017 - November 2017

*Description and Relevance of Project:*

I investigated the short term habitat selection of reintroduced eastern pygmy possums and brown antechinus and their interspecific interaction with invasive black rats, testing the ideas that: (1) reintroduced animals will choose sub-optimal habitat to avoid competition with black rats; (2) reintroduced animals will be sub-ordinate upon direct encounter with black rats. I conducted flora surveys to assess habitat composition and quality and compared this to spatial data collected in ArcGIS. I also deployed infra-red motion sensor cameras to record con-specific interactions over similar resources.

---

*Key Relevant Tasks Performed:*

- Trap, transport and reintroduce small native mammals as part of reintroduction project
- Conduct flora surveys to identify plants and habitat quality
- Mapping reintroduced mammal movements
- Design the experimental methodology, and analyse data using statistical software

**Project:** University Research Assistant

---

*Client/Location:* North Head Sanctuary, and Northern Beaches

*Role & Company:* Research Assistant, University of Sydney

*Duration of Role:* November 2017-January 2017

*Description and Relevance of Project:*

Following my honours project, I was employed by my lab to continue field work and data collection in order to write up my project as a scientific paper to be published in a scientific journal. This involved an extensive literature review effort as well as the statistical analysis of numerous datasets.

*Key Relevant Tasks Performed:*

- Literature review and writing scientific paper
  - Analysing data
-

## **Proposed Role: Project Manager**

## **RYAN MAXWELL**

### **Current Role**

Senior Environmental  
Consultant

### **Qualifications**

Bachelor of Science  
(Sustainable Resource  
Management / Marine  
Science)

Master of Environmental  
Management – Water  
Resources (Expected  
completion 2022)

ISO 14001  
Environmental  
Management Systems  
Lead Auditor: ISO  
14001 & ISO 19011

Certificate IV in Work  
Health and Safety

### **My Accountabilities on this Project**

- Undertaking site inspection and reporting
- Ensuring that all aspects of the project meet client expectations.
- Allocating necessary resources to ensure milestones are met.

### **Why my track record, experience and character makes me ideally suited to this project:**

I am an experienced environmental professional with more than 10 years' experience within the construction, resources, and operations and maintenance sectors. I have extensive experience with site-based environmental management on complex projects located throughout NSW, QLD and the Pacific region.

Most recently, I was the project manager and prepared the Review of Environmental Factors (REF) for the Rydalmere Park Field 1 and 2 Upgrade project for the City of Paramatta Council.

Prior to joining Molino Stewart, I was an Environmental Manager for John Holland and responsible for ensuring overall environmental management and compliance across various infrastructure projects as detailed below.

- New Intercity Fleet Maintenance Facility – Delivered on behalf of TfNSW.
- Sydney Gateway Project – Delivered on behalf of TfNSW
- Transport Access Program Easy Access Train Station Upgrade Project – Delivered on behalf of TfNSW.
- Sydney Water Infrastructure Projects contract – Delivered on behalf of Sydney Water.

The above projects included site environmental management, environmental monitoring (water, dust, noise, vibration, odour), compliance monitoring and reporting, development and implementation of Construction Environmental Management Plan (CEMP) and sub-plans, preparing REFs, liaising and negotiating with external stakeholders, environmental inspections and internal audits.

### **Lessons learnt from my past project experience that will be relevant on this program:**

I have learnt how to assess issues and provide pragmatic, tailored solutions that balance social, environmental and economic requirements and how to involve stakeholders during the assessment process to maximise the integration of adopted strategies.

By holding to these principles and being both personable and transparent throughout the process, it is possible to meet client objectives.

## Track Record & Relevant Experience

---

**Project: Rydalmere Park Fields 1 and 2 Upgrade Review of Environmental Factors**

---

*Client/Location:* City of Parramatta Council / Rydalmere, NSW

*Role & Company:* Project Manager, Molino Stewart

*Duration of Role:* July 2021 – November 2021

*Description and Relevance of Project:*

Molino Stewart prepared an REF for the Rydalmere Park Fields 1 and 2 Upgrade being delivered for the City of Parramatta Council which involved the construction and relocation of carparks, playing fields, recreational facilities and associated electrical and drainage infrastructure. Key issues included the ecological impacts associated with vegetation removal, visual and lighting impacts to the community and nearby sensitive receivers, and asbestos contamination which required management under a Remedial Action Plan. The works were permissible under the *State Environmental Planning Policy (Infrastructure)* (iSEPP) and assessed under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

*Key Relevant Tasks Performed:*

- Client liaison and project management
- Site inspection and ecological work
- Preparation of the REF
- Mapping and GIS analysis
- Identify key environmental issues related to the project

---

**Project: New Intercity Fleet Maintenance Facility**

---

*Client/Location:* TfNSW / Kangy Angy, Central Coast NSW

*Role & Company:* Environmental Manager, John Holland

*Duration of Role:* September 2017 – December 2020

*Description and Relevance of Project:*

I was the John Holland Environmental Manager for the New intercity Fleet Maintenance Facility (NIFMF) responsible for ensuring overall environmental management and compliance throughout the Project.

The Projects planning approvals were particularly complex which involved multiple Species Impact Statements, EPBC referrals and various post approvals. Additionally, external licenses and permits were required which included an EPL, Water Supply Works Approval, NSW Fisheries approvals, Aboriginal Heritage Impact Permit etc. This required a high level of environmental compliance monitoring to ensure works were being completed in a compliant manner.

This Project was particularly challenging because it had significant and very public ecological impacts which resulted in community opposition.

*Key Relevant Tasks Performed:*

- Development, implementation and periodic review of the CEMP and sub-plans;
  - Environmental compliance monitoring and reporting against the CEMP, planning approvals and external permits/licenses.
  - Regular environmental inspections and internal audits to identify and resolve any site environmental issues.
  - Post approvals under the TfNSW planning framework.
-

- Incident investigations and overall management.
- Liaising with various stakeholders including regulators, community, client etc.

**Project: Sydney Gateway Project – Stages 1 and 3**

---

*Client/Location:* TfNSW / Mascot NSW

*Role & Company:* Stage 1 Environmental Manager, John Holland

*Duration of Role:* December 2020 – June 2021

*Description and Relevance of Project:*

Prior to joining Molino Stewart, I was the Stage 1 Environmental Manager for the Sydney Gateway Project which was determined to be Critical State Significant Infrastructure (CSSI). This Project was particularly unique due to it spanning across both State (*Environmental Planning & Assessment Act 1979*) and Commonwealth jurisdictions (*Airports Act 1996*). My role predominantly assisted and coordinated the development of the CEMP and relevant sub-plans, as well as obtaining approvals to support the early works program.

*Key Relevant Tasks Performed:*

- Assisted with and coordinating the development of the CEMP and sub-plans
- Obtaining approvals to support the early works program including development of multiple Early Works CEMP's and Environmental Work Method Statements (EWMS).
- Identification of upcoming project works requiring additional planning approvals and development of post approval documentation e.g. Consistency Assessments and Step 2 memo's.
- Development of processes, procedures and other documentation to support overall delivery of the early works program.
- Regular environmental inspections to identify and resolve any site environmental issues.

**Project: TAP Easy Access Train Station Upgrade Project**

---

*Client/Location:* TfNSW / Various locations within the greater Sydney region

*Role & Company:* Environment & Sustainability Coordinator, John Holland

*Duration of Role:* May 2016 – September 2017

*Description and Relevance of Project:*

I was the John Holland Environment and Sustainability Coordinator the TAP Easy Access Project which involved the upgrade or modernisation of Blacktown, Croydon, Wentworthville and Pendle Hill train stations, each with separate Part 5 planning approvals.

This Project was particularly challenging due to the amount of night works being conducted on the railway line in highly urbanised areas. Noise, vibration and community management were key focus areas for this Project.

*Key Relevant Tasks Performed:*

- Regular inspections, internal audits and reviews of works practices to ensure compliance with CEMP, planning approvals and external permits/licenses.
  - Management of the out-of-hours work applications including noise and impact modelling.
  - Incident investigations and overall management.
  - Environmental monitoring particularly related to noise and vibration management.
-

**Project: QCLNG Wellsite Facilities Installation Project**

---

*Client/Location:* QGC / Western Downs region in South-East QLD

*Role & Company:* Environmental Specialist, Transfield Services

*Duration of Role:* October 2012 – June 2014

*Description and Relevance of Project:*

I was the Environmental Specialist for the QCLNG Wellsite Facilities Installation Project which involved the installation of approximately 500 coal seam gas well sites throughout the Western Downs region. This also included the construction of gas interchange pipeline project. I was primarily responsible for site surveillance to ensure all environmental work practices were being conducted in accordance with the CEMP and associated processes/procedures. Erosion and sediment controls were key focus areas for these projects due to the amount of soil disturbance combined with the dispersive nature of the soils.

*Key Relevant Tasks Performed:*

- Site surveillance to ensure works were being conducted in accordance with the CEMP.
- Development and implementation of Erosion & Sediment Control Plans.
- Completing environmental risk assessments for all new work fronts.
- Development and implementation of procedures to ensure compliance with biosecurity requirements (weed and seed management).
- Incident investigations and management.
- Liaising with various stakeholders including regulators, community, client etc.

**Project: Sydney Water Infrastructure Upgrades**

---

*Client/Location:* Sydney Water/ Various locations throughout the greater Sydney region

*Role & Company:* Environmental Coordinator, Transfield Services

*Duration of Role:* January 2011 – October 2012

*Description and Relevance of Project:*

I was the Environmental Coordinator for a contract with Sydney Water which provided upgrades to existing Sydney Water infrastructure including water/sewage treatment plants, pumps stations, dams/weirs, pipelines etc. My role on the Project was to assess and obtain planning approvals for each of the projects and provide site surveillance.

*Key Relevant Tasks Performed:*

- Complete environmental assessments for each project including Review of Environmental Factors (REF).
  - Environmental compliance monitoring and reporting against the CEMP, planning approvals and external permits/licenses.
  - Regular environmental inspections and internal audits to identify and resolve any site environmental issues.
-

## BRUCE MULLINS

### DIRECTOR | PRINCIPAL ECOLOGIST | ACCREDITED BIOBANKING ASSESSOR

#### QUALIFICATIONS

- Bachelor of Science, University of Technology, Sydney
- Masters of Science, University of Technology, Sydney
- BioBanking Accredited Assessor (No. 0156)

#### BIOGRAPHY

Bruce is an ecologist with twenty-seven years post-graduate experience and is a Director and Principal Ecologist at Ecoplanning. Following the completion of a Master of Science thesis examining patch dynamics and plant ecophysiology at an abandoned mine site in the central tablelands of NSW, Bruce has been working as a researcher and environmental consultant. For seven years, he managed the environmental consulting activities of Charles Sturt University, principally through the Johnstone Centre, based in Wagga Wagga. He spent over 12 years at Eco Logical Australia, where he was leader of the Ecology and Assessment Team and Principal Ecologist.

Bruce has highly developed skills in research and consulting. He is experienced in the design and execution of ecological surveys, environmental impact assessment, the development of management plans, the biobanking assessment methodology and offsets, literature reviews and all aspects of project management. He can work through complex ecological issues, and present solutions in logical and simple terms. He has work throughout NSW and the ACT, and also has experience in Victoria, QLD, NT, WA and SA.

#### RECENT RELEVANT PROJECTS

*Plains-wanderer habitat assessment, eastern Riverina, Biodiversity Conservation Trust.*

*Paddocks for Plains-wanderer, Local Land Services (in progress).*

*Review of the Plains-wanderer Important Habitat Area, DPIE.*

*Tharbogang Landfill Biodiversity Offset Strategy and Monitoring 2015 - 2018, Griffith City Council.*

*Rapid vegetation assessment, mid to lower Murrumbidgee (Griffith to below Balranald), OEH.*

*Wetland Vegetation Surveys for LiDAR comprising the Gwydir Wetlands, DECCW*

*Ecological Surveys, Nymagee, Triako mines with Charles Sturt University.*

*Ecological Surveys, Cobar, Endeavour mine with Charles Sturt University*



*Biodiversity Stewardship Site Assessment Report, "Lawson", Gillenbah, for ARTC.*

*Flora, Fauna and Aquatic Assessment, including mapping Regent Parrot nest sites and flyways, Robinvale NSW, RTA*

*PAS expert advice (Plains-wanderer, *Brachyscome muelleroides* and *Leptorhynchos orientalis*), OEH.*

*Native Vegetation Guide for the Riverina: notes for land managers on its management and revegetation, Native Dog Working Group and Berrigan Shire Council, NHT Grant Wagga Wagga Planning Studies, ecological survey for Biocertification project, Willana Associates.*

*Floristic Value Score advice, Riverina grasslands, OEH.*

*Black-striped Wallaby remote camera surveys, Pilliga, Narrabri.*

*Winter bird surveys and target threatened fauna surveys, Narrabri Gas Project, SANTOS*

*Vegetation Mapping, Vegetation Management Plan and Weed Management Plan, Mulwala Explosives Facility, Mulwala, Thales and Dept of Defence.*

*Kangaroo population estimates, vegetation impact monitoring and Box-Gum Woodland monitoring 2010-2013, 2017-2020, AWMA, KMA, RAAF Base Wagga, MTA (2017 only), HMAS Creswell and BWR (2017-2018), Spotless.*

*Research and Monitoring (Plains-wanderer, *Brachyscome muelleroides*, *Leptorhynchos orientalis*, *Swainsona murrayana*, *Swainsona sericea*, *Lepidium monoplocoides*), DEFCOMMSTA Morundah, 2002-2008, Department of Defence*

*DEFCOMMSTA Morundah Biodiversity and Landscape Management Plan, Department of Defence*

*Revised weed management strategy, Riverina Murray Valley, Department of Defence*

*Defence Vertebrate Pest Management Strategy, Riverina Murray Valley, Spotless.*

*Plains-wanderer, survey and habitat assessment 2015, OEH. Field expertise and survey provided*

*Native Grassland Condition Assessment, Tubbo Station, Tubbo Farming.*

*Wilpinjong Coal, Flora and Fauna Monitoring 2015, Peabody.*

*Assessment of the impact of Military Activities in Buckingbong State Forest, Dept of Defence*

## **RELEVANT PROJECTS PRIOR TO 2004**

*Native Vegetation Guide for the Riverina: notes for land managers on its management and revegetation, Native Dog Working Group and Berrigan Shire Council, NHT Grant*

*Historical distribution of Native Grasses through Parkes, Forbes and Lachlan Shires, Western Research Institute.*

*Full floristic surveys, Coleambally Irrigation Area, AMBS.*

*Flora survey, Riverine Plain (62 sites), DLWC*

*Flora survey, Wagga Wagga LGA (75 plots), DEC*

*Flora survey, Coleambally Irrigation Area, Australian Museum.*

*Ecological Assessment, Muggabah and Merrimajeel Creeks, Booligal, Dept Commerce*



*Monitoring and Evaluation of the Bidgee Banks project in the mid Murrumbidgee.*

*Habitat management plan, Superb Parrot and habitat assessment, Pomingalarna Station, Wagga Wagga.*

*Lake Brewster augmentation, near Hillston, Ecological assessment, State Water.*

*Scoping Report for the Development of a Biodiversity Strategy and Plan for the Rice Industry, Ricegrowers' Association*

*Evaluation of 1750 mapping of vegetation by the Riverina Vegetation Committee, NPWS.*

*Frog and reptile survey of Murrumbidgee Irrigation Area, Murrumbidgee Irrigation:*

*Flora, Fauna and Aquatic Assessment, including mapping Regent Parrot nest sites and flyways, Robinvale NSW, RTA*

*Flora survey, Hay Weir, Australian Power and Water Pty Ltd*

*Threatened Species Assessment, Twynam (Gundaline) Pastoral Company.*

*Proposed Roadside Vegetation Removal, Ecological Assessment 13 sites (Waddi, Carrathool, Narrandera, Wagga, Galore, Howlong, Wanganella, Cootamundra, Sandigo, Junee, Barmedman), RTA.*

*Proposed Bridge Upgrades, Ecological Assessment (Corowa, Hillston, Balranald, Tocumwal), RTA.*

*Preliminary Investigation of Native Grassland for Plains-wanderer (Pedionomus torquatus) habitat, Tubbo Station, NSW*

*Proposed realignment of the Mid Western Highway, Gunbar, RTA.*

*Microbat survey, Livingstone State Forest, Forestry.*

*Microbat survey, Willanthery Bridge, RTA.*

*Proposed Realignment of the Sturt Highway across Sandy Creek Floodplain, Narrandera, RTA*

*Feasibility Study, determine early indicators of dryland salinity in remnant woodlands, mid Murrumbidgee Catchment, NPWS*

## **RELEVANT PUBLICATIONS**

Kent, K., Earl, G., Mullins, B., Lunt, I. and Webster, R. (eds) (2002). *Native Vegetation Guide for the Riverina: notes for land managers on its management and revegetation*. Charles Sturt University, Wagga Wagga.

Mullins, B. (2002). The Benefits of Native Vegetation. In: *Native Vegetation Guide for the Riverina: notes for land managers on its management and revegetation*. Eds K. Kent, G. Earl, B. Mullins, I. Lunt and R. Webster. Charles Sturt University.

**ELIZABETH NORRIS**



## **SENIOR ECOLOGIST / BOTANIST**

### **QUALIFICATIONS**

- Bachelor of Science, Macquarie University
- Master of Science, Macquarie University
- Post Certificate in Electron Microscopy, Sydney Technical College
- BioCondition v2.1 - Application, Assessment and Scoring Queensland Herbarium, Department of Science, IT, Innovation and The Arts

### **BIOGRAPHY**

Liz has 35 years botanical and ecological research in the New South Wales: Sydney Basin, Coastal New South Wales, Hunter Valley, North and South Western Slopes and Plains, often to remote areas. She has a Bachelor of Science, a post graduate certificate in electron microscopy and a Master of Science (Thesis) “*A study of the soil and vegetation patterns within part of the Pilliga Forests, and an evaluation of the impact of European settlement on the vegetation*”.

Liz has been involved in a large number of systematic floristic surveys, targeted flora surveys, vegetation monitoring, the development of strategic conservation plans, other ecological assessments and an ecological expert to the NSW Land and Environment Court. She has been an employee at the National Herbarium, Royal Botanical Gardens from 1982 – 2009 and has undertaken a range of duties including various research projects and curation of the herbarium collection. Liz has extensive experience as a field botanist, has written species descriptions for the Flora of NSW, and provided technical advice at flora workshops.

### **RECENT RELEVANT PROJECTS**

*Lachlan River Catchment, validation of wetlands, NSW Office of Environment and Heritage. Field survey and reporting*

*Murray-Darling Basin Authority: Vegetation Mapping - Darling River Floodplain, Wilcannia to Bourke, NSW*

*Wetland vegetation surveys for LiDAR – Gwydir Wetlands and Lowbidgee Wetlands: ground truthing of vegetation against LiDAR data, DECC*

*Gungahlin Strategic Assessment, ACT: flora ecologist, vegetation survey and mapping. Territory and Municipal Services, Canberra*

*Narrandera to Temora Vegetation Condition Assessment, South West Slopes: - collection of vegetation condition from plot data recording tree species, size and canopy health, hollow bearing trees, mid-storey and groundcover diversity, weeds, woody debris. DEWHA*

*NSW South-east Corner Biometric Benchmark Project – collection of floristic plot data and vegetation mapping validation for DECC*

*Targeted orchid survey, Buckingbong State Forest, Wagga, Department of Defence*

*Upper Hunter Regional Environmental Management Strategy – vegetation survey and floristic plot data collection for Hunter Regional Councils*

*Integral Energy and the NSW Road & Traffic Authority: various flora surveys for infrastructure upgrade works, Sydney Basin and Blue Mountains.*

*Targeted surveys within the Cumberland Plain, Sydney Metropolitan Area: Various targeted surveys for flora and fauna including the Cumberland Land Snail, Pimelea spicata, Grevillea juniperina, Allocasuarina glareicola.*

*Maroota State Conservation Area: targeted flora surveys for Acacia bynoeana, Micromyrtus blakelyi, Kunzea rupestris, Olearia cordata, Zieria involucrata, Pimelea curviflora, Tetratheca glandulosa for DECCW.*

*Deerubbin Land Council threatened flora surveys: targeted surveys for Dillwynia tenuifolia, Pultenaea parviflora, Persoonia nutans, and counts for Marsdenia viridiflora,*

*Metropolitan Colliery Vegetation Monitoring Program 2008 – 2018, Peabody Energy. Project manager and lead ecologist - field survey (includes collection of plot data, plant health) and reporting.*

*Centennial Coal Vegetation Monitoring: floristic surveys of long term monitoring plots within Upland Swamps, Newnes Plateau, NSW Central Tablelands – collection of floristic plot data.*

*Moolarben Coal Operations – biodiversity offset area flora and fauna survey monitoring: flora ecologist, field survey and vegetation validation, site set-up and collection of plot data.*

*Holcim Quarries Offset Site: Lead flora ecologist, Box-Gum Woodland and Stringybark Woodland vegetation mapping, collection of floristic plot data (for Biobanking Assessment) and threatened flora surveys (Ammobium craspedioides) for a proposed offset site north-west of Crookwell, NSW.*

*Metz Solar Farm State Significant Development: lead flora ecologist, vegetation survey, field survey using Biobanking Assessment Methodology (BBAM). Infinergy Pacific Ltd.*

*Crudine Ridge Wind Farm EA, Sofala, Central West, NSW (includes Biobanking Assessment): Lead flora ecologist, field survey and reporting for Environmental Assessment for proposed wind farm in NSW central west.*

*Biometric plot surveys: completion of numerous of Biometric plot surveys (20x20 m and 50x20 m nested plots) across NSW for formal and informal Biobanking assessments and offset strategies - Sydney Metro, Northern Tablelands and Central West.*

*Aarons Pass Road proposed upgrade, Pyramul: flora assessment and reporting for proposed upgrade associated with proposed Crudine Ridge Wind Farm.*

*Clementson Street, Broome, WA: lead flora ecologist, flora and fauna assessment and opportunities and constraints report for Nyamba Buru Yawuru Ltd including survey for threatened and priority flora and species of ethno-biological importance.*

*Lynch's Crater, Far North Queensland:- lead flora ecologist, vegetation mapping validation and flora survey for proposed peat extraction. Bamboo Plantations Australia.*

# Ross Wellington Curriculum Vitae



## QUALIFICATIONS:

Bachelor of Arts Biological Sciences {triple major}  
Diploma in Education  
Macquarie University, North Ryde, NSW  
Teachers Certificate Awarded NSW Department of Education

## Degree Courses Completed

Ichthyology – Professional Ichthyologists Course – Dr John Paxton Curator Fishes Australian Museum  
Mammalogy – Professor Geoff Sharman  
Ecology – Dr Frank Burrows, Dr George Mackay, Dr Mark Westoby  
Vertebrate Zoology – Dr Walter Ivantsoff  
Invertebrate Zoology – Dr Noel Tait and Dr Dinah Hales  
Vertebrate Physiology I & II – Dr Jack Bassett, Dr Irena Pollard, Dr Keith Cairncross  
Advanced Evolutionary Genetics – Dr David Briscoe, Dr Dick Frankham, Dr Peter Johnston  
Cytogenetics – Dr Ted Robinson  
Microscopy – Dr Ron Oldfield  
Climatology – Mr Alan Wilkie  
Earth Materials (Geology) – Dr Dave Roots  
Geomorphology and Natural Hazards – Dr Russell Blong  
Science in the Secondary School – Dr Marion Manton  
Science Teaching Classroom Practice

## Other Courses and Accreditations

Certificate IV Geographic Information Systems – GIS, Newcastle TAFE  
Advanced Skills Teacher (AST1, AST2 endorsed) – NSW Department of Education  
Accredited to teach -: Biology, Chemistry, Geology, Earth and Environmental Science, Marine Studies, Geography, Legal Studies, Aboriginal Studies and Computing Studies, General Education K-12  
ESRI ArcView GIS Training Course  
Oasis – DET/DEC Financial and Administrative Management System Training  
DET Working with Children Training  
DET and NPWS (NSW Govt) Merit Selection Conveners Training  
Advanced Microsoft Word and Excel Training Courses  
Wilderness First Aid  
Remote Area First Aid  
St Johns Senior First Aid  
CPR Refreshers  
Anaphylaxis Training  
NSW Work Cover Authority White Card Construction Site Safety  
NPWS 4WD Training Course  
LLS 4WD Training Certificate Tocal College  
NSW Land and Environment Court Evidentiary and Expert Witness Procedures Training - EIANZ  
Teacher Course *Entomology in the Classroom* - Australian Museum  
Teacher Course *Fisheries and Fishing* - NSW Fisheries  
Frog and Bat School Fauna Survey Methods - NSW State Forests

## EMPLOYMENT HISTORY

1977-1978 Australian Museum Herpetology Department  
1977-1978 Australian Museum Ornithology Department  
1977-1978 Australian Museum Ichthyology Department

These contract positions entailed providing advice and response to public enquiry on fauna related matters including taxonomy and identification, preservation and cataloguing of scientific specimen collections, accurate identification of specimens and the initial computer registration of the Museums extensive specimen database.

1978 – 1981 Department of Education and Training Katoomba High School  
Science Teacher, Senior Biology Teacher

1982-1990 Department of Education and Training Blaxland High School  
Science Teacher, Biology Teacher, Chemistry Teacher, Computing Studies Teacher, Marine Studies Teacher, Mathematics Teacher, Legal Studies Teacher (team teaching)

1991-1998 Australian Environmental Surveys (AES) Morisset Forestry EIS Reptile and Amphibian regional assessment component; South Coast Region State Forest assessment - Narooma Reptile and Amphibian Surveys, Red-crowned Toadlet Assessments Killcare, Forestry Compartment Assessments, CRA/RFA Surveys, Central Coast National Parks Bushfire Assessment Fauna Surveys – threatened herpetofauna (Popran, Brisbane Water Dharug, Bouddi, Yengo, Wyrabalong, Wambina, Lake Macquarie Reserves);

Targeted Surveys and assessments Munmorah SRA Wallum Frog *Crinia tinnula*, Green-thighed Frog *Litoria brevipalmata*; Green and Golden Bell Frogs *Litoria aurea* Avoca Lagoon/Davistown/Kincumber, Yellow-bellied Gliders, Telecommunications Towers Brisbane Water, Dharug and Muogammara Reserves); Mount Owen Coal Mine/ Ravensworth State Forest – Green and Golden Bell Frog; Whitebridge Subdivision.

- 1991 – 1998 Department of Education and Training Rumbalara Environmental Education Centre
- provided environmental educational experiences to approximately 10,000 students and their teachers per year over a 7 year period.
  - prepared environmental education resources for all Central Coast Schools
  - Interpreted Central Coast environments for the benefit of students and teachers experiencing them.
  - prepared environmental newsletters
  - prepared environmental fact sheets (this included several specifically for NPWS/DECC on Wildlife Management related issues.
  - Liaised with other Government and NGOs and provided advice and assistance where possible.
  - Provided consultancy service to schools related to habitat rehabilitation, creation/enhancement and preparation/utilisation of environmental learning areas, school environment management.
  - Assisted schools with grant applications to gain funding for environmental projects.
  - Coordinated the Central Coast Environment Group network
  - During 1997 and 1998 assumed the responsibility of Principal and coordinated the running of the Centre for 18 months.
  - Teacher and Acting Principal/Teacher in Charge Rumbalara Environmental Education Centre – DET Developed teaching resources and developed and delivered environmental education programs to over 100,000 school students and teachers over a 7 year period, including a year and a half as the manager of the centre (1991-1998)
- 1998 – 2004/5 NSW National Parks and Wildlife Service (NPWS) later Department of Environment and Conservation (DEC) then Department of Environment and Climate Change (DECC) Senior Threatened Species Officer; Acting Central Directorate Threatened Species Manager; Acting NSW Conservation Assessment and Planning Division Manager (CAPD); Acting state-wide Threatened Species Coordinator; Acting state-wide Wildlife Management Manager; appointed NSW lead agency representative on the National Cane Toad Task Force and the National Frog Disease Working Group; foundation member NSW Declining Frog Working Group (DFWG) to the present.
- preparation of State and National recovery plans;
  - prepared/issued Director Generals Requirements for SIS; reviewed SIS, issued concurrence and assumed concurrence authorities;
  - prepared Ministerial briefings;
  - reviewed Part 5A assessment reports;
  - prepared submissions and provided advice to the NSW Scientific Committee;
  - reviewed Management Plans and Plans of Management;
  - prepared s110 profiles - (Threatened Species Profiles);
  - prepared Threatened Species Environmental Impact Assessment Guidelines for Councils and consultants;
  - issued s120 & s91 licences, reviewed conditions and issued s95 certificates, reviewed s134 licence applications and prepared/applied conditions;
  - successfully prepared various funding applications for research and rehabilitation works at National and State level;
  - reviewed Environmental Trust Grant applications and audited performance;
  - undertook breach investigations for threatened species matters at a civil level as well as under the Integrated Forestry Operations Approval (IFOA);
  - assisted in the development of the Property Vegetation Plan (PVP) 'developer tool' for use by the CMAs and DIPNR as part of new Natural Resource Management reforms (2004);
  - developed IFOA Threatened Species prescriptions for SFNSW (DPI) to apply to their Forestry Operation Plan and Harvest Plans and audited SF NSW compliance with IFOA threatened species and general licence prescriptions;
  - investigated application (breaches) and prosecution of SFNSW re Threatened Species prescriptions under IFOA;
  - prepared Policy and Procedure and Information Circulars for NPWS/DECC/DET - NSW Frog Hygiene Protocol, Reptile Seizure Policy, Marine Fauna incident database, Marine Reptile Management Policy, Plague Minnow Gambusia Threat Abatement Plan;
  - relieved as Manager Threatened Species Unit Central;
  - relieved as state-wide Threatened Species Policy and Programs Coordinator, PO 5-6 Biodiversity Management Unit (HO TSU), CAPD Manager and state-wide Wildlife Management Manager.
- 2005 Science Teacher Brisbane Water Secondary College – Casual (Junior Science and Senior Agriculture)
- 2005-2007 Molino Stewart Environmental Consultants – Senior Consultant undertaking numerous environmental and sustainability related projects including: development related environmental impact assessment, community and stakeholder facilitation, management plan development – including SEMP, educational policy and planning, natural hazard planning, environmental and sustainability training, community consultation, engagement and planning. Included development of flood safe guides and other strategies for NSW Emergency Services. Prepared under contract to DECC Green and Golden Bell Frog Key Population Management Plans for 9 GGBF KPs, GGBF Best Practice Habitat Guide, GGBF ID Brochure, Broad-headed Snake Recovery Plan finalisation; established Molino Stewart as an ecological consulting firm.
- 2007-2011 EcoLogical Australia Environmental (ELA) Consultants – Senior Consultant/Ecologist undertaking numerous projects relating to: wildlife survey and habitat assessment, policy development and wildlife management planning, environmental sustainability training including establishment of the company as an RTO in the areas of Bio-banking, Bio-certification, Biodiversity training and GIS training.
- 2011 – 2016 Proprietor Australian Environmental Services (AES) undertaking private sector environmental consultancy services including environmental impact assessment and natural resource management, part-time casual teacher & Acting Principal Rumbalara EEC and Chemistry/Biology Teacher Brisbane Water Secondary College, sub-consultant to Molino Stewart Pty Ltd; EcoLogical Australia Pty Ltd; EcoPlanning Pty Ltd and also Central Coast Climate Clever Energy Schools program coordinator (Department of Education & Communities – 4 years).

- 2016 NSW Environment Protection Authority (EPA) Upper North East (Grafton) Senior Operations Officer Forestry Compliance Unit Private Native Forest (PNF) Property Vegetation Plans (PVP) – PNF PVP administration, preparing reference maps, sketch maps and issuing PNF PVPs; site inspections assessing compliance with PNF Code, assessing TECs, Old Growth and Rainforest when purportedly on-site; community liaison & public enquiry, Crown Forestry compliance with IFOA, investigated breach allegations.
- 2017 – 2018 Office of Environment and Heritage (OEH) Senior Conservation Planning Officer North East Branch (Grafton). Provided assessments of development proposals, commented on draft Planning Instruments and amendments to same, issued SEARs, provided OEH response to statutory requests from DPE and Councils to various developments and planning proposals including numerous Part 3A Mods and LEP amendments. Interpreted new legislation and regulations for licensing requests and in the determinations by Councils for BDAR requirement; prepared routine correspondence to consultants and LGAs during the introduction of the Biodiversity Conservation Act; provided comment on agency Policy/Code documents; responded to public enquiry, reviewed REFs, MPs and PoMs, reviewed consultant assessments as required or requested by LGAs, inputs to BAM Operational Manual amendments, SEPP amendments, liaised with BC Act LGA advisory officers and OEH Policy Branch, reviewed biodiversity expert status applications, liaised with DPE re expert witness requirements for LEC matters and undertook biodiversity offset site assessments re adequacy of areas for meeting offset requirements (RMS). Projects/Issues included: West Byron Ewingsdale Road Urban Release, Tweed Shire Rural Lands Strategy, Byron Employment Lands Review, Byron Town Centre Planning Proposal, Infrastructure SEPP exemptions and Licensing requirements for threatened species Port Macquarie-Hastings LGA, Pacific Complete RMS Offset areas, Macksville Hospital, Pacific Pines State Veg Mgt, Palm Lake Seniors Living, Bonny Hills PP, Wilsons Creek Subdivision, Hearn's Lake Part 3A
- 2018 – Present Australian Environmental Surveys (AES) undertaking various consulting projects. As an accredited Biodiversity Expert in the following (or in the process of becoming so accredited). Green and Golden Bell Frogs *Litoria aurea* [GGBF], Red-crowned Toadlet *Pseudophryne australis* [RCT], Rosenberg's Goanna *Varanus rosenbergi* [RG], Broad-headed Snake *Hoplocephalus bungaroides* [BHS], Pink-tailed Worm Lizard *Aprasia parapulchella* [PTWL], Striped Delma *Delma impar* (SD), Three-toed Snake-tooth Skink *Coeranoscincus reticulatus* [TTSTS], Green-thighed Frog *Litoria brevipalmata* [GTF], Wallum Frog *Crinia tinnula* [WF], Stuttering Frog *Mixophyes balbus* [SF], Giant Barred Frog *Mixophyes iteratus* [GBF], Fleay's Barred Frog *Mixophyes fleayi* [FBF], Stephen's Banded Snake *Hoplocephalus stephensii* [SBS], Pale-headed Snake *Hoplocephalus bitorquatus* [PHS], White-crowned Snake *Cacophis harriettae* [WCS], Sloane's Frog *Crinia sloanei* [SF], Yakka Skink *Egernia rugosa* [YS], Woma Python *Aspidites ramsayi* [WP], Stimson's Python *Antaresia stimsoni* [SP], Soil-crack Whip-snake *Demansia rimicola* [SCWS], Mackay's Burrowing Skink *Anomalopus mackayi* [MBS], Ringed Brown Snake *Pseudonaja modesta* [RBS], Ornamental Snake *Denisonia maculata* [OS], Koala *Phascolarctos cinereus* [K], Warnervale/Wyong Daisy *Rutidosis heterogamma* [Rh], Mitchell's Rainforest Snail *Thersites mitchellae* [MRS], Earless Dragons *Tympanocryptis pinguicollis* [ED].
- Biobank/Stewardship Species Credit additions to existing Biobank or new Stewardship Sites and/or offsetting requirements for development/clearing of sites and credit establishment on insipient offset sites - Kundabung, Tucabia/Pillar Valley, The Oaks, Milperra, Mardi, Pickett's Valley, Kemps Creek, Wee Waa, Moree, Muswellbrook. Targeted surveys/assessments and/or expert reports for: (several sites – Riverstone, Kemps Creek, Pickett's Valley, Crescent Head, Milperra/Riverlands & Earlwood); - The Oaks [RCT, RG], Balgowlah Heights [RCT], Queanbeyan [RG], West Belconnen [RG]; Mardi/Tuggerah [GTF, SF, GBF, SBS, GGBF], Fifield [SF], Wee Waa/Moree [SF, WP, MBS, SCWS, PHS, SPRBS], Tucabia/Pillar Valley [SBS, SF, GBF, TTSTS, WCS, GTF], Kundabung [WF, GTF, GGBF]
- Development Assessment - Muswellbrook/Denman [PTWL, SD, GGBF], North Lismore Plateau [WCS, SBS, FBF, Koala, Wompoo, Superb and Rose-crowned Fruit Dove, Sooty Owl, Thorny Pea, Hairy-joint Grass], Hawks Nest [Koala, GGBF, Chestnut Mouse], Warnervale/Woongarra/Charmhaven [Rh], Byron Bay Bypass [MRS], Goonellabah [PSG] Purple-spotted Gudgeon. Reptile and amphibian records and distributional database establishment for the Gunnedah Basin Coalfields on behalf of Whitehaven Coal; Annual monitoring - GGBF at Crescent Head offset sites, Herpetofauna at Werris Creek offset and rehabilitation sites, Sunnyside Gunnedah offset and rehab sites.

## Government Infrastructure Projects

- Sydney Water Cronulla STP and pipeline up grade
- Sydney Harbour and Sydney Ports Authority Cooks Cove redevelopment REP
- Sydney Olympic Park (WRAMS) predominantly relating to Green and Golden Bell Frog conservation.
- South Strathfield Intermodal Terminus at Enfield Marshalling Yards
- North West Rail Link
- Epping to Chatswood Rail Link
- Commuter Carpark upgrades at Woy Woy and Ourimbah Railway Stations
- Southern Freight Rail Link line duplication
- Great Western Highway lane duplication upgrades Woodford to Lawson
- M5 East Motorway development and its subsequent upgrade
- M2 Motorway lane duplication
- Kurnell to Bunnerong Botany Bay Cable Project and Kurnell sub-station upgrade
- Mardi to Mangrove Dam Pipeline

- Southern Motorway alignment risk assessment for RTA
- Kurnell Desalination Plant
- HMAS Platypus Sydney Harbour site redevelopment
- Ausgrid underground cable installation, Homebush
- North Nowra Link-road - targeted survey and ecological assessment of proposal on the Giant Burrowing Frog

## Major Industry Projects

- Dendrobium, Mt Owen, Ravensworth, Warkworth and Cumnock coal mines and mine expansions
- Port Waratah and Kooragang Island coal loading terminals
- Mardi to Mangrove Dams pipeline infrastructure development
- Bayswater Power Station upgrade
- Kurnell Desalination Plant
- Boco Wind Farm Assessment at Nimmatabel, NSW – targeted surveys for Earless Dragons, Pink-tailed Legless Lizards and Little Whip-snake
- Taralga Windfarm targeted survey, offset requirements and offset site credit establishment.



## Residential and Commercial Developments

- Hunter Economic Zone (HEZ)
- Somersby Industrial Estate
- Australand's Kurnell Peninsula residential area
- Lensworth's Wallarah Peninsula (Pinnie Beach) residential estate
- North Lakes Residential release area
- Johnson Property Group and AV Jennings Westminster Homes Wadalba residential release
- Crighton Properties Gwandalan residential release area
- Wadalba Residential Rezoning and subdivision
- Wyong Employment Zone (WEZ)
- Sydney North West and South East Growth Centres
- Tallawarra Lands release area
- North West Growth Centre (Riverstone Precinct) Biocertification
- Hannas Group 'Punchbowl Brickpit' infill and industrial rezoning/subdivision development.

## Threatened Species Recovery Programs

- Threatened species recovery plan- (National) Green & Golden Bell Frog
- Threatened species recovery plan- (National) Broad-headed Snake
- Threatened species recovery plan- Blue Mountains Water Skink
- Threatened species recovery plan- (National) Gould's Petrel
- Threatened species recovery plan- Grevillea caleyi
- Threatened species recovery plan- Southern Brown Bandicoot
- Threatened species recovery plan- Brush-tailed Rock-wallaby
- Threatened species recovery plan- Yellow-bellied Glider
- Threatened species recovery plan- Giant Burrowing Frog

## Environmental Planning and Policy

- Green and Golden Bell Frog Recovery Plan – NSW DEC
- Broad-headed Snake Recovery Plan – NSW DECC
- Review and significant input and development of Yellow-bellied Glider RP
- Review and significant input to development of Barred River Frogs *Mixophyes ssp* RP
- Review and significant input to development of final Gould's Petrel RP
- Review and significant input to development of final Blue Mountains Water Skink RP
- Review and significant input to development of draft Marine Turtle (National) RP
- Review and significant input to development of draft Giant Burrowing Frog RP
- Review and significant input to development of final Plague Minnow *Gambusia* Threat Abatement Plan (TAP).
- Review and significant input to development of Bitou TAP
- Review and significant input to development of Fox TAP
- Review and significant input to development of Somersby Mintbush *Prostanthera junonis* RP
- Review and significant input to development of Frog Chytrid TAP (National).
- Hygiene Protocol for Disease Control in Amphibians – NSW DECC (with Ron Haering) <http://www.environment.nsw.gov.au/resources/nature/hyprfrog.pdf>
- Strategic management Plans (9) for Key Populations of the Green and Golden Bell Frog at: Port Kembla, Greenacre, Kurnell, Arncliffe, Georges River, Parramatta River, Kooragang Island and Hexham Swamp, Maitland/Cessnock and Upper Hunter (Bayswater/Liddell, Ravensworth & Mt Owen)
- Prospect Nature Reserve Plan of Management (Sydney Catchment Authority)
- Wyong Employment Zone (WEZ) Warnervale, NSW; Wildlife Conservation Plan of Management and preliminaries for Biocertification.
- Biobanking Offset Tool Development – (NSW DECC) assisted with development
- Threatened Species Environmental Impact Assessment Guidelines – Red-crowned Toadlet
- Threatened Species Environmental Impact Assessment Guidelines – Giant Burrowing Frog
- Threatened Species Environmental Impact Assessment Guidelines – Green and Golden Bell Frog.
- Threatened Species Recovery Planning 'prioritization tool' development.

- Priorities Action Statement development for all threatened herpetofauna and other selected species listed under NSW TSC Act 1995 (NSW DECC).
- Property Vegetation Plan – PVP assessment tool assisted development (NSW DECC and CMAs) for implementation by CMAs following their formation.
- Exotic Reptile Seizure Policy (Draft - NSW DECC)
- Marine Turtle Nest Disturbance Policy and Marine Reptile stranding Policy (Draft – NSW DECC with Fiona Mandelc).
- Reptile Hygiene Protocol
- Threatened Species Code developed for implementation by prescribed authorities under the NSW Rural Fires Act (with Lloyd van der Waallen).
- Grey-headed Flying Fox camp disturbance (relocation) policy (Draft – NSW DECC)
- NSW Threatened Fauna Species Translocation Policy
- Coordinated the development of a genetic/DNA probe to differentiate between the Threatened Southern Short-nosed bandicoot *Isodon obesulus* and the non-threatened Northern Short-nosed Bandicoot *Isodon macrurus* – developed in collaboration with Macquarie University researchers – Ass. Professor Peter Johnston, Dr Kyall Zenger and Dr Mark Eldridge.  
<http://www.springerlink.com/content/p5qj5qm257525288/fulltext.pdf>
- Green and Golden Bell Frog Best Practice Habitat Guide. Document to guide habitat management, creation and enhancement for the threatened Green and Golden Bell Frog and other frog species. Produced for NSW Department of Environment and Climate Change.  
<http://www.environment.nsw.gov.au/resources/threatenedspecies/08510tsdsqrengolbfbpg.pdf>

## Ecology

- On-site environmental management plan for the Red-crowned Toadlet, Giant Burrowing Frog and *Darwinia glaucophila* Lot 4 Piles Road, Somersby.
- Herpetofauna Survey of the Ravensworth State Forest Area (Mt Owen Coal Mine)
- Reptile and Amphibian Surveys of the Narooma Forestry District – Wandella & Dampier SFs
- Morisset Forestry District Environmental Impact Statement. Supporting Document No. 7 covers all SFs between Hawkesbury and Hunter Rivers
- Tania Park and Wellings Reserves - Manly, LGA Fauna surveys and habitat assessment surveys developed REF for activities
- Five Forests surveys and ecological investigations of impacts of fire and forestry practices on wildlife on the south coast area of NSW (Bega District).
- Wellings Reserve, Balgowlah Heights Fire Management and Ecological assessment (Manly Council)
- Aquatic and Terrestrial Ecological Assessment of proposed Bellfield College Site, Rossmore NSW.
- Planting the Seed' vegetation mapping and weed management along the Cooks River, Marrickville Council and other participating Councils in catchment area
- Stormwater management and drain maintenance assessment of Davistown, NSW for the Green and Golden Bell Frog (Gosford City Council)
- Warnervale Biodiversity Plan of Management in conjunction with East Coast Flora Surveys and Forest Fauna Surveys
- Beacon Hill Seniors Living SIS.

## Environmental Impact Assessment

- Environmental Impact Assessment Lot 4 Piles Road, Somersby NSW. (RCT, GBF, Rosenberg's Goanna, *Darwinia* & *Prostanthera*).
- Environmental Impact Assessment Lot 2 Piles Road, Somersby (RCT, GBF, Rosenberg's Goanna, *Darwinia* & *Prostanthera*).
- Pre-harvest Threatened Species habitat assessment within Doyles River SF, Enfield SF, Bulga SF, Dingo Tops SF and Mt Boss SF
- Bulga State Forest Threatened Species habitat assessment
- Environmental Impact Assessment and 8 Part-test Headlands: Hawkeshead Drive, Killcare NSW Red-crowned Toadlet

- Flora and Fauna Assessment and 8 Part-test: Greens Parade, Kellyville NSW (RCT, GBF and *Darwinia*)
- Environmental Impact Assessment and 8 Part-test: Round Drive, Avoca, NSW (GGBF)
- Environmental Impact Assessment and 8 Part-test: Crematorium Development Failford Road, Failford, NSW (Chestnut Mouse)
- Environmental Impact Assessment and 8 Part-test: Westfield Shopping Centre, Tuggerah, NSW (YBG)
- Environmental Impact Assessment and 8 Part-test: Tramway Road, North Avoca, NSW (GGBF)
- Flora, fauna and archaeological investigations for Telstra
- Environmental impact assessment Broad-headed Snake St Helens Park and Wedderburn Telstra
- 150 Lot subdivision Precinct 1 Northlakes, Estelville; Requirements for Species Impact Statements
- 280 Lot subdivision Precinct 2 & 3 Northlakes, Estelville; Requirements for SIS
- 86 Lot subdivision Precinct 4 Northlakes, Estelville; Requirements for Species Impact Statements
- Dendrobium Coal Mine Proposal, Appin; Requirements for Species Impact Statements
- SEPP 5 aged development at Normanhurst Requirements for Species Impact Statements
- Somersby Fields (Vulcan Materials) Vegetation and threatened flora species mapping
- Bar Point, Hawkesbury River Threatened Flora and Fauna assessment and 8 part-test
- Bunnerong STS to Kurnell STS Terrestrial ecological assessment
- Review of Environmental Factors for the Blowering Dam upgrade (State Water)
- Kemps Creek between Elizabeth Drive and Gurners Rd Cecil Park, NSW Transgrid REF
- Fishway Construction Ecological Assessment Wollie Creek – (Rockdale & Canterbury City Councils)
- Environmental Impact Assessment Lot 18 Balkala Rd Bayview Hts - (Walker & Walker)
- Botany Bay Cable Project (Part 3A) Ecological Assessment and Commonwealth Referral
- Statement of Environmental Effects Proposed expansion to Barker College, Hornsby
- Gulph Creek, Nerrigundah Review of Environmental Factors for Dam Works
- Woy Woy Waste Depot expansion proposal – (URS & Gosford City Council)
- Rossmore Private School Ecological Assessment
- Energy Australia/Ausgrid Power Stanchion Maintenance works Ecological Assessment
- Energy Australia/Ausgrid Ecological Assessment underground power cable upgrades Homebush Bay
- Ecological Assessment 145 Johns Road Wadalba
- Ecological Assessment for Green and Golden Bell Frogs Riverlands Georges River (Liverpool City Council)
- Wildlife Surveys Norah Head, Halekulani and Bushell's Ridge (Darkinjung Land Council)
- Woy Woy Road upgrade and duplication Species Impact Statement - SIS (Cardno, ES&M and Gosford City Council)
- Wadalba Residential DA and Rezoning 145 Johns Road Integrating Corridor Connectivity with the Wadalba Wildlife Corridor (Zaychan Pty Ltd)
- Oakdale 1360 Burragorang Road Ecological Assessment Mushroom and Composting Facility (APX Primary Industries)
- Kulnura 351 Greta Road. Poultry Farm and access Road Upgrade ecological assessment and targeted *Diuris bracteata* orchid surveys (Peter Tng)
- Residential subdivision Clarence Road Springfield NSW (Australis Properties)
- Commercial Development North Wyong (Red-eye Constructions)
- Riverlands subdivision Georges River Milperra (Mirvac)

- Release of s88B covenant on a 4 Lot subdivision at Woongarah (Yeramba Estates)

## Environmental Law

- Assessment of s91 Licences – (DECC) Undertook independent assessment of section 91 licences for various applicants to the NSW DECC including proposals that potentially impacted on various Endangered Ecological Communities (EECs) including Blue Gum High Forest and Blue Mountains Hanging Swamp, threatened species including: Blue Mountains Water Skink, Squirrel Glider, Green and Golden Bell Frog, *Tetratheca juncea*, Grey-headed Flying Fox and Broad-headed Snake
- Expert witness Sutherland Shire Council and Department of Planning Vs Rocla Pty Ltd Sand Mining proposal impacts on the Green and Golden Bell Frog, Land Environment Court  
<https://www.caselaw.nsw.gov.au/decision/549f96c83004262463b0504d>
- Review of licensing and MoU arrangements for vegetation management along easements running through Scheyville, Cattai, Marramarra, Popran and Brisbane Water National Parks along the Alinta/Agility and Caltex pipelines from Sydney to Kooragang Island
- Breach investigations - NSW NPWS/DEC v Forests NSW IFOA licence conditions;
- Endangered ecological communities and threatened species habitat clearing at Redhead, NSW; NSW DEC/NPWS and Lake Macquarie City Council V BGP Properties and Hue Gordon  
<https://www.caselaw.nsw.gov.au/decision/549f83ba3004262463abd97f>
- Developed a case for compensation and resolution of licensing jurisdiction issues for commercial fishers in the Queensland east coast fishing zone in response to changes to commercial fishing areas brought about by zone adjustments to the Great Barrier Reef Marine Park and establishment of the Torres Strait Protected Zone. Liaised and negotiated across the complex jurisdictional and management responsibilities of the Protected Zone Joint Authority (PZJA), Great Barrier Reef Marine Park Authority (GBRMPA), Queensland Fisheries Management Authority (QFMA) and the Australian Fisheries Management Authority (AFMA) in relation to eligibility for compensation or re-issue of licence.
- Compliance Officer NSW NPWS/DEC investigation of breach allegations with respect of Forests NSW with its Integrated Forestry Operations Agreement (IFOA) licence conditions relating to Threatened Species and general forestry operations prescriptions/conditions; formulating new prescriptions for prescribed threatened species as required. [RCT, GBF, HF, PP]
- Expert Witness Wollongong City Council Vs Warrigal Care Pty Ltd ecological impacts on Green and Golden Bell Frog and an Endangered Ecological Community
- Expert Witness Beacon Hill Retirement V Warringah Shire Council ecological impacts on Red-crowned Toadlets, Giant Burrowing Frogs, Rosenberg's Goanna and Southern Brown Bandicoots  
<https://www.caselaw.nsw.gov.au/decision/549f8dfb3004262463ae32bf>
- Expert Witness PGH V Wollongong City Council ecological impacts on Red-crowned Toadlets, Giant Burrowing Frog, Broad-headed Snakes, Rosenberg's Goanna, Stuttering Frog, Southern Brown Bandicoot and Ground Parrot  
<https://www.caselaw.nsw.gov.au/decision/549f926e3004262463af454e>
- Expert Witness Hawkesbury City Council V Hadfield - ground water extraction proposal Tooti Creek adjacent to Blue Mountains World Heritage area, impacts of extraction on threatened Giant Burrowing Frogs, Stuttering Frogs, Red-crowned Toadlets and Macquarie Perch.  
<https://www.caselaw.nsw.gov.au/decision/549f96003004262463b01fd6>
- Breach Investigations at Fencott Drive, Jewell's NSW investigated various vegetation clearance issues without consent re Lake Macquarie City Council Vs McCloys
- Purported Threatened Species Impacts at Newrybar Land and Environment Court (White & White V Ballina Council) re purported impacts of access track on *Mixophyes*, and other threatened herpetofauna.



### **Tory Stening (B.A, M.A. (Archaeology), J.P)** **Curriculum Vitae**

#### Responsibility Level:

- ✂ Director/Project Director/Principal Archaeologist

#### Qualifications:

- ✂ Bachelor of Arts (Archaeology);
- ✂ Master of Arts (Archaeology).

#### Affiliations:

- ✂ Australian Association of Consulting Archaeologists, Full Member (M.AACAI)
- ✂ Australian Archaeological Association (AAA);
- ✂ Australasian Society of Historical Archaeology (ASHA);
- ✂ International Council on Monuments and Sites, Full Member (M.ICOMOS);
- ✂ Australasian Institute of Maritime Archaeology (AIMA);
- ✂ World Archaeological Congress (WAC).

#### Skills:

- ✂ Aboriginal and non-Aboriginal Archaeology
- ✂ Project Management
- ✂ Heritage Assessment
- ✂ Statements of Heritage Impact
- ✂ Cultural Heritage Management
- ✂ Aboriginal Community Consultation

#### Relevant Expertise:

- ✂ Historical archaeological and heritage assessment in accordance with the NSW Heritage Manual;
- ✂ Aboriginal place management including an understanding of relevant legislation;
- ✂ Aboriginal community consultation;
- ✂ Facilitation of OEH's "Aboriginal Consultation Requirements for Proponents 2010";
- ✂ Site survey and excavation including background research and AHIMS searches;
- ✂ Impact assessment and mitigation;
- ✂ Documentation, mapping and predictive modelling;
- ✂ Preparation and submission of AHIMS site cards;
- ✂ Preparation of reports in accordance with OEH's Due Diligence and Archaeological Codes of Practice;
- ✂ Significance assessment & provision of management recommendations;
- ✂ Site inductions and site management;
- ✂ Delivery of Cultural Heritage Training;
- ✂ Provision of expert advice;
- ✂ Critical path delivery of projects;
- ✂ Justice of the Peace for New South Wales since 2010;
- ✂ Expertise in stone tool identification and analysis.

#### Relevant Projects:

- ✂ Aboriginal archaeological assessment and Aboriginal cultural heritage assessment report: 1 Sirius Road, Voyager Point on behalf of Pronto Properties;
- ✂ Historical archaeological assessment: 249 Devonshire and 5 Nickson Streets, Surry Hills on behalf of Vatera Developments;
- ✂ Aboriginal archaeological assessment: Gleniffer Brae and Wollongong Botanic Gardens on behalf of Wollongong City Council;
- ✂ Historical and Aboriginal archaeological assessment for integration into Conservation Management Plan: Braidwood Central School on behalf of the Department of Education;
- ✂ Aboriginal archaeological assessment for Karabar High School on behalf of Department of Education;
- ✂ Aboriginal archaeological assessment for Mount Victoria to Lithgow Upgrade Great Western Highway on behalf of the MV2L Alliance;
- ✂ Aboriginal archaeological assessment: Corner Melbourne Road and William Street, Riverstone;
- ✂ Statement of Heritage Impact: Leichhardt to Callan Park Transmission Feeder on behalf of Ausgrid;
- ✂ Statement of Heritage Impact: Johnsons Creek Stormwater Canal on behalf of City of Sydney Council.

## Training/Education, Stakeholder/Community Consultation and Liaison

- Our Valuable Estuaries "Our Valuable Estuaries, Coast and Marine Environs – Making Connections", Environmental Education Resource. Researched and developed the geography learning and teaching resource mapped to NSW Syllabus Outcomes, in consultation with Ocean Watch Australia and DET Curriculum Branch/CLIC. <http://www.oceanwatch.org.au/Backup/kids-stuff/our-valuable-estuaries-resources/our-valuable-estuaries/>
- ARTC Environmental Code Training – (Australian Rail and Track Corporation - ARTC) Environmental impact Assessment Code training for SEPP - (ARTC Rail Infrastructure) 2004
- Geographic Information Systems (GIS) training (NSW DET). Developed and delivered a two-day course in the use of ESRI ArcView GIS for Geography and Science teachers.
- Lower North Coast NRM Education Strategy and Implementation Plan (Hunter-Central Rivers Catchment Management Authority). Facilitated meetings with a reference committee consisting of representatives from local councils, government agencies, environmental groups and rural landholders to develop education strategies and an implementation plan linked to the CMA's Catchment Action Plan (with Neil Duffy).
- DPI School Education Plan (NSW Department of Primary Industries). Facilitated workshop with DPI staff. Developed an award-winning school education plan for the NSW DPI.
- Facilitated and provided technical presentation to nine (9) community, government agency and other stakeholder groups to develop key population management plans for the Endangered Green and Golden Bell Frog across its distribution as part of RP implementation (in collaboration with Neil Duffy).
- Developed a Natural Resources Management Guide for Rural landowners – 'Rural Living Handbook', for Goulburn-Mulwaree Council. <https://www.townandcountrymagazine.com.au/story/4088188/rural-living-booklet-release/> (with Neil Duffy)
- Developed community education materials 'Helping Frogs Survive' posters and internet information for NSW NPWS now OEH (in collaboration with Ron Haering)
- Developed 'Rockdale Floodsafe Guide' for the Rockdale LGA and Wollie Creek flood zone. A community flood awareness and preparation guide in collaboration with Rockdale City Council and NSW SES, (with Neil Duffy)
- Facilitated and provided technical presentation to government agencies and other community/industry stakeholder groups to formulate specific and achievable actions in the development of the National Recovery Plan for the Endangered Broad-headed Snake (with Neil Duffy).
- Delivered awareness and induction training to NSW NPWS works staff undertaking track maintenance various National Parks with threatened frog species habitat.
- Developed 'Frogs of Western NSW' Poster, a community education and identification guide, (in collaboration with Melanie Bannerman and Ron Haering).
- Developed Davistown stormwater management guide for Gosford City Council and provided induction training to Council works staff in its implementation.
- Developed and delivered induction training to Energy Australia/Ausgrid environmental staff and contractors undertaking power stanchion maintenance works at Kurnell.
- Teacher Training and Development Courses (NSW DET). Planned and implemented numerous training and development courses for teachers, particularly in Environmental Education, Science and Geography field work activities and associated techniques – particularly for Central Coast teachers.
- Delivered a community biodiversity monitoring training program for community volunteers and Lake Macquarie City Council staff (with Sophie Powrie).
- Developed and delivered a pilot Forestry Practice Teacher training program in collaboration with SF NSW. This program subsequently became a state-wide program delivered by SF NSW. (Developed with Steve Shaw and Kathy Lyons).
- Developed and delivered a simple Water Quality testing program for junior school students across all Central Coast schools. This program was further developed and promoted to the then DLWC state-wide stream watch coordinator (Gavin Atkins) and was adapted to become the NSW 'Bugwatch' Program which is delivered today by CMAs across the state.
- Developed a NSW Environmental Education sites inventory - NSW Environmental Trusts Project (with Ann and Neil Duffy).
- Developed a Biodiversity Teaching Learning and resources kit delivered to all Central Coast schools (with Mark Attwooll).
- Developed and delivered Sustainable Agriculture Program for Central Coast students and teachers at Narara and Somersby Agricultural Research Stations in collaboration with NSW Agriculture Research Scientists (Jim Murison, Tony Wells) and Somersby Commercial Poultry Growers (Max Britten).
- Developed and delivered a field geology program for Central Coast/Hunter students and teachers – 'a trip back in time' developed in conjunction with Coal Operations Australia geologists and Chris Herbert (with Mark Attwooll).
- Developed and delivered a marine study teaching program in conjunction with NSW Fisheries highlighting fish nursery habitat areas including sea grass and mangrove habitats (with Mark Attwooll).
- Developed a Hunter Threatened Species Teaching Learning program and units of work for all lower Hunter Schools in conjunction with Cessnock and Maitland Councils and NSW DECC (Newcastle Office) with Neil and Erin Duffy).
- University student training (University of Newcastle). Trained several groups of university students in water quality monitoring and other environmental monitoring techniques.
- Tutor in the (ATAS) distance education program (Charles Sturt University) – Bachelor Environmental Science (Management) Degree Course
- Guest Lecturer in the Environmental Science and Management Degree Course University of Newcastle – Ourimbah Campus – Development Assessment Process and interactions between EP& A Act, TSC Act and FM Act.
- Co-Supervisor Honors Degree Project Ecology of the Green and Golden Bell Frog. University of Wollongong
- Co-supervisor PhD Degree Project Disturbance ecology of the Red-crowned Toadlet and Giant Burrowing Frog. University of Technology Sydney (UTS) – Andrew Stauber
- Co-supervisor PhD Degree Project Genetic differentiation of the Green and Golden Bell Frog and its application to conservation management. University of NSW – Emma Burns
- Co-supervisor Teacher Education Graduate Environmental Education project. University of Western Sydney (Rusty Worsman)
- Teachers Guide to Local History Studies on the Central Coast – a teaching learning resource compendium for Central Coast teachers.
- Climate Clever Energy Schools Central Coast program coordinator. Delivering student learning activities and teacher training in energy, electricity and school energy auditing.
- Teacher and Principal (acting) - Rumbalara Environmental Education Centre – DET Developed teaching resources and developed and delivered environmental education programs to over 100,000 school students (K-12) and their teachers over a 7-year period including a year and a half as manager of the Centre (1991-1998)
- High School Science Teacher – HSC Biology, Chemistry, Earth and Environmental Science, Marine Studies; Junior Science, Mathematics, Computing Studies, Geography, Legal Studies 1978-1991)
- Assisted EcoLogical Australia become an RTO in the areas of Biodiversity Training, Biobank Certification Training and GIS Training.

## Management Skills

- Acting state-wide Conservation Assessment and Planning Division (CAPD) Manager NSW NPWS/DECC

- Acting Central Directorate Threatened Species Unit Manager NSW NPWS/DECC
- Acting state-wide Threatened Species Coordinator NSW NPWS/DECC
- Acting state-wide Wildlife Management Manager NSW NPWS/DECC
- Supervised, trained and mentored junior staff and other colleagues
- Deputy Chair Brisbane Water Gosford Lagoons Catchment Management Committee (CMC) – Ministerial Appointment by Minister for Land and Water, Richard Amery (CMCs later became Catchment Management Authorities – CMAs); Community Sustainability Education Task Group Leader BWGLCMC and Education Task Group member and Biodiversity Task Group member Tuggerah Lakes CMC
- Acting Principal Rumbalara Environmental Education Centre
- Acting Head Teacher Science Blaxland High School
- Taralga Windfarm Pink-tailed Worm Lizard *Aprasia parapulchella* and Striped Delma *Delma impar* – site impact assessment and offset site credit establishment (Rossvale and Rossville)
- Targeted Threatened Herpetofauna Biobank Species Credit site – Tucabia, White-crowned Snake, Stephens Banded Snake, Pale-headed Snake, Stuttering Frog, Giant Barred Frog, Green-thighed Frog, Three-toed Snake Tooth Skink
- The Oaks Biobank site Rosenberg's Goanna and Red-crowned Toadlet species credit assessments
- Warnervale Daisy *Rutidosis heterogamma* (Rh) offset evaluation (several sites and association with Warnervale Town Centre Biodiversity Certification).
- Kundabung Green-thighed Frog and Wallum Frog species credit additions to existing Biobank site.
- North Wyong Industrial/Commercial land development - Wyong Sun Orchid *Thelymitra adorata* salvage of seed and other propagules and translocation options
- Goonellabah Residential subdivision, rehabilitation of Tucki Tucki Creek riparian zone for the Koala and fishway/fish passage options for the Purple-spotted Gudgeon *Mogurnda adspersa*
- Tumbi Umbi to Bateau Bay Central Coast Highway Road widening impact offsets for the GGBF, GTF, WF and MT
- Biobank/Stewardship Site New Italy - Threatened Species Credit additions targeted surveys for the Wallum Frog, Wallum Sedgefrog, Green-thighed Frog and other miscellaneous threatened species.

## Offsetting

- Wadalba Wildlife Corridor Assumed Concurrence
- Targeted threatened Species Surveys Coalcliff/Maddens Plains offset site
- Emerald Hills targeted GGBF Surveys assumed absence
- Expert GGBF Report Port Kembla Biodiesel Australia site
- Expert GGBF Report Kundabung Biobank site establishment
- Targeted surveys *Aprasia parapulchella* Taralga Windfarm offset site
- Targeted Surveys Earless Dragon *Tympanocryptis pinguicola* - Nimmatabel Boco Rock Wind Turbine Farm

## Selected Publications

- Wellington, R.C. and Wells, R.W. (1994) Herpetofauna Survey of the Ravensworth State Forest Area for the proposed extension of the Mount Owen Coal Project, Hebden New South Wales. Report prepared by AES for Resource Planning Pty Ltd (incorporated into the FIS).
- Wellington, R.C. and Wells, R.W. (1994) Reptile and Amphibian Surveys of the Narooma Forestry District – Wandella – Dampier State Forests. Report Prepared by AES for SFNSW Narooma Office
- Wellington, R.C. and Wells, R.W. (1993) (published 1995) Morisset Forestry District Environmental Impact Statement. Supporting Document No. 7. Fauna Survey of the Morisset Forestry District Central Coast NSW. Reptiles and Amphibians. State Forests NSW
- Wells, R.W. and Wellington, R.C. (1984) A Synopsis of the Class Reptilia in Australia. Aust. J. Herpetology 1(3-4): 73-129
- Wells, R.W. and Wellington, R.C. (1985) A classification of the Amphibia and Reptilia of Australia. Australian Journal Herpetology (Supp. Series) 1: 1-61
- Wells, R. W. & Wellington, C. R. (1985b). A synopsis of the Amphibia and Reptilia of New Zealand. Australian Journal of Herpetology, Supplementary Series, (1):62-64.
- Frogs of Western NSW Poster (2003) (co-produced with M Bannerman and P Sherratt). NSW DEC
- Helping Frogs Survive Poster (2002) (co-produced with Ron Haering and Judy Denby). NSW DEC
- Payne, R.J., Stevenson D.A. and Wellington R. (2002) A standardised method for counting Black-Eyed Susan populations. Department of Environment and Conservation Technical Note No. 1, March 2002. (Addendum D to Lake Macquarie *Tetratheca juncea* Planning and Management Guidelines)
- Payne, R., Wellington, R. and Somerville, M. (2010) Coastal Sandplain Vegetation at Brisbane Water and Broken Bay reconstructing the past to plan for the future. *Cunninghamia* 11(3): 295–317
- Inventory of NSW Environmental Studies Sites (NSW Environmental Trusts) (1997). Surveyed and compiled a detailed inventory of environmental studies sites throughout NSW that could be accessed by school excursions (co-produced with A. and N. Dufty). Rumbalara Environmental Education Centre and the NSW Environmental Trust
- Schools Water Testing Kit (1996) (co-produced with Neil Dufty) Rumbalara Environmental Education Centre
- Teachers Guide to Local History Studies (1997) Rumbalara Environmental Education Centre
- Biodiversity Kit for Schools (1998) (co-produced with Mark Attwooll) current Principal Rumbalara EEC

End of CV