

## **1.5 Qualifications and Certification**

### **Qualifications**

The principal author of this addendum report was Matthew Doherty BLMC of RPS Harper Somers O'Sullivan Pty Ltd, with additional input from Craig Anderson BAppSc (EAM) and Sam Bishop BEnvSc. The academic qualifications and professional experience of all RPS HSO staff involved in the project are documented in Appendix B.

### **Certification**

As the principal author, I, Matthew Doherty make the following certification:

- The results presented in the report are, in the opinion of the principal author and certifier, a true and accurate account of the bushfire factors considered likely to occur within the site;

Signature of Principal Author and Certifier:



**Matthew Doherty**  
**Environmental & GIS Manager**  
**RPS Harper Somers O'Sullivan**  
**August 2008**

## 2 PUBLIC NOTIFICATION AND IHAP KEY ISSUES

The public notification and IHAP review process (DECC, 2008) identified several issues that required further investigation and assessment in relation to the proposal. Furthermore updates relating to the modified proposal require updated mapping to that presented in the previously submitted BTA. The abovementioned issues and updates alluded to herewith are considered in this report under the following categories:

### ***General***

- Concept Plan Amendments
- Landownership Issues

### ***Bushfire Amendments***

- Asset Protection Zones
- Access
- Construction and Design

## 3 GENERAL

### ***3.1 Amended Concept Plan***

On the recommendations of the IHAP as informed through the public notification and review process, the following key modifications to the concept plan have been made:

- Proposed Development Precincts C and D have been removed;
- The proposed bypass road has been removed; and
- The boundary of Development Precinct B has been modified.

Refer to Figure 3-1: Amended Concept Plan

### ***3.2 Land Ownership***

During the public notification process, agency submissions received from Council and DECC highlighted concerns surrounding the ongoing management responsibilities relating to land ownership. Coal & Allied have considered which agency is likely to assume control of lands following project completion and land dedication. Refer to Figure 3-2: Land Transfer Plan.

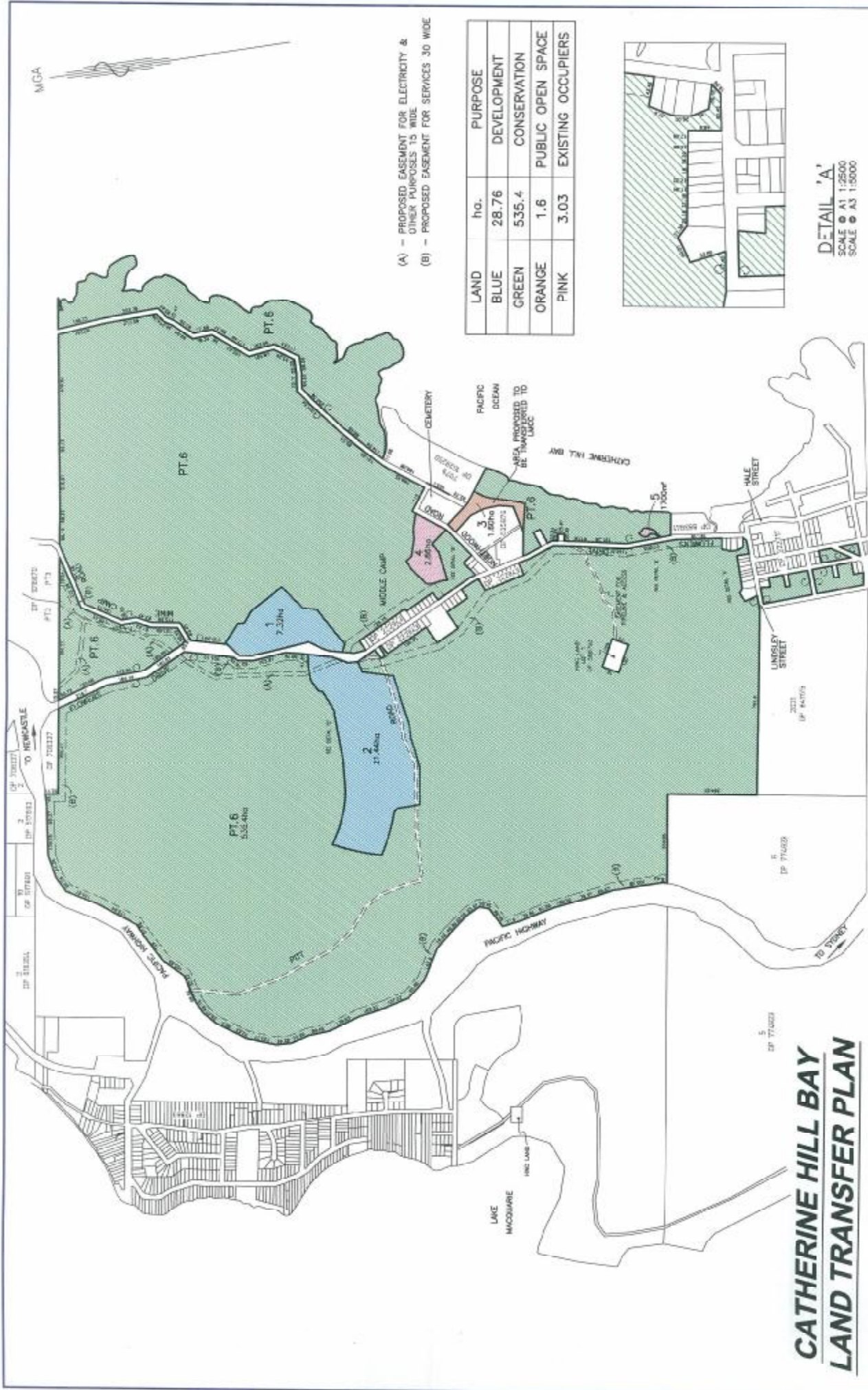


Maximum dwelling yield - 222 dwellings

Figure A1.3.1 Catherine Hill Bay Indicative Lot Layout







(A) - PROPOSED EASEMENT FOR ELECTRICITY & OTHER PURPOSES 15 WIDE  
(B) - PROPOSED EASEMENT FOR SERVICES 30 WIDE

LAND	ha.	PURPOSE
BLUE	28.76	DEVELOPMENT
GREEN	535.4	CONSERVATION
ORANGE	1.6	PUBLIC OPEN SPACE
PINK	3.03	EXISTING OCCUPIERS



DETAIL 'A'  
SCALE @ A1 1:2500  
SCALE @ A3 1:5000

# CATHERINE HILL BAY LAND TRANSFER PLAN

<b>REVISIONS</b> No. Rev. Date 1 1-1-2008 2 1-1-2008 3 1-1-2008		<b>Monteath &amp; Powys</b> SURVEYING PLANNING ENGINEERING DESIGN PROJECT MANAGEMENT 170 Bala Street Newcastle NSW 2300 Ph: 081 420 1300 Fax: 081 420 3078 E: info@monteathpowys.com.au W: www.monteathpowys.com.au		Client: <b>COAL &amp; ALLIED</b> Drawn: A.M. Checked: R.M. Scale: A1: 1:2500 A3: 1:5000 Date: 01/11/2007 DO NOT SCALE		Sheet No: <b>1 of 2</b> Title: <b>PROPOSED SUBDIVISION OF LOT 322 DP702691, LOT 2030 DP641171, PT LP 6 DP746077, PT LOT 5 DP7581170, PT LOT 13 DP954197, PT LOT 5 SEC D DP161, PT LOT 10 SEC D DP161, LOT 221 DP110308 &amp; LOT 16 DP755556, CATHERINE HILL BAY</b> CAD File: 07161R.dwg Plot No: 07161 Date: 22/06/2008
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## **4 BUSHFIRE AMENDMENTS**

### **4.1 Revised Asset Protection Zones**

#### ***Development Estate A - Sawmill Camp***

Comments made by the NSW RFS (Appendix A) relating to the prescribed APZ's within the initial BTA (RPSHSO 2007c) for the eastern lots of Development Estate A have been reconsidered with a view to remove any APZ burden on these lots. As such the APZ as previously determined within the submitted BTA (RPSHSO 2007c) has been shifted eastward into the proposed landscaped bushland reserve as shown in the revised concept plan (Refer to Figure 3-1). The resulting APZ is now contained predominantly within the proposed landscaped bushland reserve (Refer to Figure 4-1 overleaf).

#### ***Development Estate B - Colliery Hamlet***

The south-eastern site boundary has been extended based on the APZ assessment undertaken within the initial BTA (RPS HSO 2007c) in order to provide a reduced APZ burden on the previously affected lots. The APZ has been sited 5m within the affected lots concurrent with the required building setbacks under the local council DCP. The balance of the APZ will consist of a 20 metre southern perimeter road (which has the benefit of providing a defensible space for bushfire threats from the south) and public open space that will be maintained to an OPA standard.

Refer to Figure 4-1: Revised APZ and Construction Level Map.

### **4.2 Access**

Given the bypass road has been omitted from the amended concept plan it has been noted that only one point of ingress/ egress is now proposed within Area B – Colliery Hamlet. To counter this Coal and Allied is proposing to establish a secondary emergency ingress/ egress that will traverse land owned by the proponent which is cleared of potential bushfire hazards. The access will be situated on the south-eastern boundary (Refer to Figure 3-1). At a minimum the access will comply with PBP 2006 criteria for Fire Trail Access (Chapter 4 pp24, 25).

### **4.3 Construction and Design**

Given the abovementioned APZ amendments coupled with the amended concept plan, a revision to the subsequent construction standard mapping has been made. Only slight boundary changes have been made to Estate B, with no alterations to Vegetation or slope, therefore these construction standards are concurrent with the previously submitted BTA (RPS HSO 2007c).

Refer to Figure 4-1: Revised APZ and Construction Level Map.





**WARNING**  
No part of this plan should be used  
for critical design dimensions.  
Confirmation of critical positions  
should be obtained from Harper Somers  
O'Sullivan Pty Ltd.

**Sawmill Camp  
Estate**

**Colliery Hamlet  
Estate**

Dam



0 50 100m

**LEGEND**

- Development Estate
- Level 1 Construction (AS3959-1999)
- Level 2 Construction (AS3959-1999)
- Level 3 Construction (AS3959-1999)
- Asset Protection Zone

**TITLE: Figure 4-1:**

Catherine Hill Bay  
Revised APZ and  
Construction Level Map

**CLIENT: Coal and Allied Operations  
Pty Ltd**



**PLANNING SURVEYING ECOLOGY**

**SCALE:** 1:3000 at A3 Size  
**DATUM:** MGA Zone 56 (GDA 94)  
**LAY OUT REF:** AS3959-1999  
**CONTOUR INTERVAL:** N/A  
**JOB REF:** 24530-1

**DRAWN:** S. Blehob  
**APPROVED:** M. Doherty

**DATE:** 28/02/2008

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## **5 CONCLUSION**

This Addendum report has addressed the key issues and additional works required following the public notification and IHAP review process. As such if the recommendations contained within the previously submitted BTA (RPS HSO 2007c) are duly considered in conjunction with the issues and amendments addressed within this addendum report, it is considered the fire hazard present is containable to a level necessary to provide an adequate level of protection to life and property on the development estate.

## 6 BIBLIOGRAPHY

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NSW Rural Fire Service (2007) APZ Calculator  
<http://bfaa.rfs.nsw.gov.au/apzcalc.html> August 2008

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RPS HSO Ecology (2007a). *Preliminary Bushfire Threat Assessment Report for Southern Lands- Stage 1*. Report Prepared for Coal and Allied Operations, January 2007

RPS Harper Somers O'Sullivan (2007b) *Ecological Constraints Investigations, Phase 1, Over Various Holdings in the Lower Hunter/Central Coast NSW. – Addendum Report*. April 2007.

RPS Harper Somers O'Sullivan (2007c) *Bushfire Threat Assessment for Southern Lands Catherine Hill Bay*. A report to Coal & Allied, November 2007.

RPS Harper Somers O'Sullivan (2007d) *Ecological Assessment Report for Southern Lands at Catherine Hill Bay*. A report to Coal & Allied, November 2007.

RPS Harper Somers O'Sullivan (2007e) *Addendum Ecological Assessment Report for Southern Lands at Catherine Hill Bay*. A report to Coal & Allied, August 2008.

Standards Australia (1999). *AS 3959 – 1999: Construction of Buildings in Bushfire-prone Areas*





## **APPENDIX A      NSW RFS Submission**



All communications to be addressed to:

Headquarters  
NSW Rural Fire Service  
Locked Mail Bag 17  
GRANVILLE NSW 2142

Telephone: (02) 8741 5555  
e-mail: developmentcontrol@rfs.nsw.gov.au

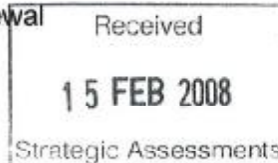
Headquarters  
NSW Rural Fire Service  
15 Carter Street  
HOMEBUSH BAY NSW 2127

Facsimile: (02) 8741 5550



Department of Planning  
Strategic Sites and Urban Renewal  
GPO Box 39  
SYDNEY NSW 2001

**ATTENTION: Michael File**



MP 07\_0095

Your Ref: S07/00899

Our Ref: S06/0071  
G07/3957

GB

8 February 2008

Dear Sir,

**Re: Draft SEPP, State Significant Site Listing, Concept Plan and Project  
Application for Catherine Hill Bay and Middle Camp NSW.**

I refer to your letter dated 7 December 2007 inviting submission from the NSW Rural Fire Service regarding bushfire protection for the above proposed development by Coal and Allied.

You are advised that the RFS has no objections to the rezoning of the land and listing as a State Significant Site.

With regards to the concept plans, the RFS offers the following advice.

Catherine Hill Bay and Middle Camp

A deemed to satisfy assessment has been carried out on the concept plan. The following comments are made with regards to the Bushfire Threat Assessment (BTA) submitted by Harper Somers O'Sullivan with the concept plan.

**Asset Protection Zones (APZ)**

- The land between the existing village of Middle Camp and the proposed bypass road shall be managed as an APZ;
- Suitable APZs / easement in the form of a fire trail shall be provided and constructed along the western boundary of the existing southern village of Catherine Hill Bay prior to dedicating the land to the NPWS;
- The road reserve alone does not provide the minimum APZ required and the building line setback is necessary to achieve this. On corner Lots however, the side boundary set back is reduced and may not be sufficient where that elevation faces the bush fire hazard;
- Undeveloped stages of the subdivision must not pose a bush fire threat to the developed areas by the appropriate temporary APZs being created;

- The part of a Lot which is not developed will be required to be managed as an APZ;
- Lots assessed to be within the “flame zone” are unacceptable and an increase in the APZ is required;

#### A Sawmill Camp

- The eastern most Lots at the end of the cul-de-sacs may not have sufficient area for the required APZ;

#### B Colliery Hamlet

- The Lots fronting the southern perimeter road do not have the required APZ for residential development. Based on a 10 – 15 degree downslope and a vegetation classification of “forest”, a 50 metre APZ is required. The proposed road reserve of 20m and building setback of 5m is insufficient;

#### D South East Hamlet

- Northern and north east Lots may not be viable given the required APZ setback from the rear boundary out of the flame zone and the proposed building setback from the road.

### Access

- Public road access shall comply with section 4.1.3 (1) of *Planning for Bush Fire Protection 2006*. All perimeter roads shall be two way with a minimum sealed carriageway of 8 metres;
- Flowers Drive from the Pacific Hwy to the village is to be upgraded to comply with section 4.1.3 (1) of *Planning for Bush Fire Protection 2006*;
- Locations of fire hydrants are to be delineated by blue pavement markers offset 150mm from the centre of the road. The direction of offset shall indicate on which side of the road the hydrant is located;
- Fire trails must be provided within the areas to be dedicated as part of the overall bush fire protection plan. Fire trails shall comply with section 4.1.3 (3) of *Planning for Bush Fire Protection 2006*.

### Water and Utilities

- Water, electricity and gas are to comply with section 4.1.3 of *Planning for Bush Fire Protection 2006*.

### Design and Construction

- The RFS assessment does not support the level of construction for the subsequent erection of dwellings recommended within the BTA. Lots assessed to be within the “flame zone” are unacceptable and an increase in the APZ is required;
- The roofing of houses shall be gutterless or have leafless guttering and valleys are to be screened to prevent the build up of flammable material. Any materials used shall have a Flammability Index no greater than 5;
- The sub-floor areas shall be enclosed with non-combustible material to prevent the entry of embers.



### **Landscaping**

Landscaping to the site is to comply with the principles of appendix 5 of *Planning for Bush Fire Protection 2006*. In this regard the following landscaping principles are to be incorporated into the development:

- Restrict planting in the immediate vicinity of the building which may over time and if not properly maintained come in contact with the building;
- Maximum tree cover should be less than 30%, and maximum shrub cover less than 20%;
- Vegetation should not provide a continuous canopy to the building;
- Suitable impervious areas being provided immediately surrounding the buildings, such as courtyards, paths and driveways;
- Combustible materials such as woodchips/mulch should not be used.

For any enquiries regarding this correspondence please contact Garth Bladwell.

Yours faithfully,



Nika Fomin  
**Development Control Co-ordinator**

The RFS has made getting additional information easier. For general information on *Planning for Bush Fire Protection 2006*, visit the RFS web page at [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au) and search under *Planning for Bush Fire Protection 2006*.



## **APPENDIX B      Qualification of Personnel**





HARPER SOMERS O'SULLIVAN

## Curriculum Vitae

**Name:** Craig Anderson  
**Office:** RPS Harper Somers O'Sullivan  
**Position in Company:** Director - Environment  
**Qualifications / Memberships:** Bachelor Applied Science (Environmental Assessment & Management) University of Newcastle, NSW (1994)  
Currently undertaking Graduate Diploma in Archaeological Heritage through UNE  
Ecological Consultants Association of NSW (ECA)  
Planning Institute of Australia (PIA)  
Frog and Tadpole Study Group (FATS)  
Hunter Birds Observers Club (HBOC) Committee Member 2008  
Bird Observers Club of Australia (BOCA)  
Hunter Heritage Network (HHN)  
RFS/PIA NSW Consulting Planners Bushfire Training

### Areas of Expertise:

- Production of complex ecological impact assessment documents
- Detailed understanding of environmental legislation
- Conflict resolution and environmental impact mediation
- Land and Environment Court hearings
- Flora, habitat, and fauna surveys including threatened species
- Bushfire Threat Assessment & Management reporting
- Project Management (including areas outside environmental concern)

### Experience Includes:

Craig is the Director of the Environment Division at RPS HSO, and has over 14 years experience in a wide range of environmental consulting. He has undertaken and managed commissions for a diverse range of projects, including State Significant Developments such as the Hunter Economic Zone (HEZ).

Extensive background in ecological field surveys, encompassing all aspects of flora and fauna identification, targeted surveying and mapping. Involved in the initial formulation of an Association of Consulting Ecologists for NSW in 1998. Elected member on the Inaugural Council (served two terms). Has acted as an expert witness in several Land and Environment Court matters relating to ecology and bushfire assessment. An experienced negotiator of ecological / development outcomes, and has a detailed understanding of legislation related to ecological matters. Craig has been actively involved in representations to the Department of Environment on behalf of the NSW Urban Taskforce in regards to proposed changes to the NSW Threatened Species Conservation Act.

Craig has also been involved in submissions on bushfire legislation and represented industry groups such as the NSW Urban Taskforce and Urban Development Institute of Australia (UDIA) on matters relating to issues such as the proposed listing of the Lower Hunter Spotted Gum – Ironbark Forest (LHSGIF) as an endangered ecological community, and regional environmental biodiversity strategies. Craig has also recently provided advice and submission material to the UDIA in relation to the Native Vegetation Act 2003 and the operations of the Catchment Management Authority (CMA).





HARPER SOMERS O'SULLIVAN

## Curriculum Vitae

**Name:** Matthew Doherty

**Office:** RPS Harper Somers O'Sullivan

**Position in Company:** Environmental & GIS Manager

**Qualifications / Memberships:** BLMC (Land & Water Conservation Major)  
Bush Regeneration Cert II

Spikeless Tree Climbing Techniques  
NSW Driver's Licence (Class C)  
OH&S Induction Training (Green Card)  
NPWS Scientific Investigation Licence  
NSW Animal Ethics Research Authority

### Areas of Expertise:

- Project Design & Management
- Environmental Impact Assessment and Reporting
- Liaison and Mediation with Clients, Stakeholders & Governing Bodies
- Archaeological (European/ Aboriginal Heritage) coordination and negotiation
- Expert GIS/ GPS for Project Design and Mapping
- Ecological Flora, Fauna & Habitat Surveys (Terrestrial & Aquatic)
- Tree Climbing to Install, Monitor and Maintain Supplementary Habitat (Nestboxes)

### Experience Includes:

Matthew has eight years experience in the ecological consulting industry with key skills in project management, survey design and GIS. In his position as Environmental and GIS Manager, Matthew manages the day to day running of projects, verification of reports and other outputs and ensures clients are well informed of project progress and key findings. Matthew's background in local and state government and private consultancy gives him a high level of appreciation of the development sector and allows him to take a pragmatic approach to providing successful conservation and development outcomes.



HARPER SOMERS O'SULLIVAN

## Curriculum Vitae

**Name:** Sam Bishop

**Office:** RPS Harper Somers O'Sullivan

**Position in Company:** Ecologist

**Qualifications / Memberships:** B. Env. Sc. (EAM)

Member of the Fire Protection Association Australia (FPA)  
Society of Frogs & Reptiles (SOFAR)  
Hunter Bird Observers Club (HBOC)  
NSW Driver's Licence (Class C)  
OH&S Induction Training (Green Card)  
NPWS Scientific Investigation Licence  
NSW Animal Ethics Research Authority

### Areas of Expertise:

- Conducting Field Surveys for Flora, Fauna and Habitat Identification.
- Flora identification and targeted threatened flora species searches
- Geographical Information Systems project design and mapping
- Report Preparation including Threatened Species Assessment, Endangered Ecological Communities assessment, and Vegetation Management Plans
- Detailed understanding of environmental legislation and threatened flora species issues
- Bushfire Threat Assessment & Management reporting
- Bushfire Risk Management Plans
- Fuel Management Plans
- Tree Clearance Supervision and Fauna Handling
- Nestbox Installation & Maintenance

### Experience Includes:

Sam has over 3 years experience as an ecological and bushfire consultant, working on projects across NSW. Sam has designed and undertaken flora and fauna surveys including targeted surveys for threatened flora species within the Hunter, Central Coast and Tablelands regions. Additionally, Sam has undertaken assessments of vegetation to meet Native Vegetation Act requirements. Key experience includes assessment of derelict mines for DPI for rehabilitation purposes.

**Name:** Alexandra Saddington

**Office:** RPS HARPER SOMERS O'SULLIVAN

**Position in Company:** Ecologist

**Qualifications / Memberships:** B. Applied Science

Waterways Authority Boating Licence  
NSW Driver's Licence (Class C)  
OH&S Induction Training (Green Card)  
Member ORRCA  
Member Native Animal Trust Fund  
Volunteer Landcare Merewether

### Areas of Expertise:

- Geographical Information Systems project design and mapping
- Bushfire Threat Assessment & Management reporting
- Bushfire Risk Management Plans
- Conducting Field Surveys for Flora, Fauna and Habitat Identification.
- Report Preparation including Fauna & Flora Assessments
- Detailed understanding of environmental legislation

### Experience Includes:

**January 2008 – Current** Ecologist  
RPS Harper Somers O'Sullivan, Broadmeadow, NSW

**February 2007 – December 2007** GIS Officer  
The Department of Lands, Newcastle, NSW