**Sanjeev kumar Loura**
Warriewood Developers

REF: 24 WD 01
DATE: NOVEMBER 6, 2024
RE: **Project Ecologist Works**
**43, 45 & 49 Warriewood Road, Warriewood**

Dear Sanjeev,

This is to advise that *TreeHouse Ecology* has been engaged to provide Project Ecologist services at the abovementioned site. All Conditions of Consent relevant to Project Ecologist services, as specified by the Notice of Orders Made by the NSW Land & Environment Court (2023/00096634), are outlined in italics below.

With respect to Condition 37, I can advise that I am a practising member and Councillor of the NSW Ecological Consultants Association. I am also a BAM Accredited Assessor (BAAS 19050). The *TreeHouse Ecology* Animal Research Authority issued by the Secretary's Animal Care & Ethics Committee and Scientific License issued under the Department of Planning and Environment are provided as attachments to this letter report. My CV is also attached.

At this stage no works have commenced. We will provide updates for the below Conditions, as required:

*BUILDING WORK – BEFORE ISSUE OF A CONSTRUCTION CERTIFICATE*

*37. Engagement of Project Ecologist*

*A Project Ecologist is to be employed for the duration of the approved works to ensure all biodiversity protection measures are carried out in accordance with the approved Biodiversity Development Assessment Report (Cumberland Ecology Version 5, 29/2/24) and Biodiversity Management Plan (Cumberland Ecology Version 5, dated 29/2/24).*

*The Project Ecologist must have one of the following memberships / accreditation: Practising member of the NSW Ecological Consultants Association (https://www.ecansw.org.au/find-a-consultant/)*

*OR*

*Biodiversity Assessment Method Accredited Assessor under the relevant legislation (https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor)*

*Evidence of engagement of the Project Ecologist is to be provided to the Certifying Authority Prior to issue of Construction Certificate.*

*Reason: To protect native vegetation and wildlife.*

*CONDITIONS THAT MUST BE ADDRESSED PRIOR TO ANY COMMENCEMENT*

*54. Temporary Protection Fencing – Exclusion Zones*

*Prior to the commencement of any works onsite, temporary mesh construction fencing is to be erected surrounding areas of retained native vegetation on the site as mapped in the approved Biodiversity Management Plan.*

*Details demonstrating compliance must be prepared by the Project Ecologist and submitted to the Principal Certifying Authority prior to any commencement.*

*Reason: To protect native vegetation.*

*58. Implementation of Biodiversity Management Plan*

*All requirements in the Biodiversity Management Plan (Ref. 21097RP3, Version r5) dated 29 February 2024 are to be implemented prior, during and post construction and subdivision works.*

*Details demonstrating pre-construction, construction and on-going compliance for the 5 year life of the BMP are to be certified by the project ecologist and submitted to the Certifying Authority prior to the issue of the Occupation Certificate.*

*Reason: Biodiversity / Vegetation Conservation and Management.*

*DURING BUILDING WORK*

*62. Compliance with Ecologist's Recommendations – During construction*

*All impact mitigation measures specified in section 8.5 of the approved Biodiversity Development Assessment Report (Cumberland Ecology Version 5 dated 29/2/24), as summarised in Table 15, are to be implemented at the appropriate stage of development.*

*Compliance with these measures is to be certified by the Project Ecologist in writing to the Principal Certifier prior to issue of any Occupation Certificate.*

*Reason: To confirm compliance with wildlife and habitat protection/replacement measures.*

*BEFORE ISSUE OF THE OCCUPATION CERTIFICATE*

*90. Compliance with Ecologist's Recommendations – Post Construction*

*All impact mitigation measures specified in section 8.5 of the approved Biodiversity Development Assessment Report (Cumberland Ecology Version 5 dated 29/2/24), as summarised in Table 15, are to be implemented at the appropriate stage of development.*

*Written and photographic evidence of compliance is to be prepared by the Project Ecologist and provided to the Principal Certifier prior to issue of any Occupation Certificate.*

*Reason: To confirm compliance with wildlife and habitat protection/replacement measures.*

*91. Protection of Habitat Features*

*All natural landscape features, including any rock outcrops, native vegetation and/or watercourses, are to remain undisturbed except where affected by necessary works detailed on approved plans.*

*Details demonstrating compliance are to be provided to the Principal Certifying Authority prior to issue of any Occupation Certificate.*

*Reason: To protect wildlife habitat.*

*95. Temporary Protection Fencing – Exclusion Zones*

*Removal of the temporary mesh construction fencing is to be certified by the project ecologist (or equivalent) and submitted to the Principal Certifying Authority prior to issue of any Occupation Certificate.*

*Reason: To protect native vegetation and waterways.*

*96. Relocation of Logs and Coarse Woody Debris*

*All logs and branches are to be salvaged from trees prior to any vegetation clearing and reused as fauna habitat within the proposed riparian area of land to be dedicated to Council.*

*Details demonstrating compliance are to be provided to the Principal Certifying Authority prior to issue of any Occupation Certificate.*

*Reason: To protect wildlife habitat.*

*ON-GOING CONDITIONS THAT MUST BE COMPLIED WITH AT ALL TIMES*

*114. Protection of Habitat Features*

*All natural landscape features, including any rock outcrops, native vegetation, soil and/or watercourses, are to remain undisturbed except where affected by necessary works detailed on approved plans.*

*Reason: To protect wildlife habitat.*

*BEFORE ISSUE OF A SUBDIVISION CERTIFICATE*

*121. Amended Biodiversity Management Plan*

*The Biodiversity Management Plan (Cumberland Ecology Version 5, 29/2/24) (BMP) is to be amended by a suitably qualified and experienced Ecologist or Bush Regenerator. Except where steps are required earlier by this consent, implementation of the BMP must begin immediately following the commencement of works. In preparing and implementing the BMP the following additional criteria must be addressed:*

*a. A suitably qualified (TAFE Certificate IV in Conservation and Land Management or equivalent) and experienced professional bush regeneration contractor is to be engaged to carry out all weed control, regeneration, revegetation and maintenance works as specified in the BMP. In addition, the site supervisor is to have a minimum of three years demonstrated experience in a similar role.*

*b. Update the weed density performance criteria within Table 2 Performance Indicators to match the weed density performance criteria contained in Table 4.*

*c. Include weed coverage percentage performance indicators within the Phase 3 Maintenance section of Table 4.*

*d. Include the requirement for a Baseline Report prepared by the Ecologist and Hydrologist following completion of the recommended minimum 6 month Water Table Depth Monitoring works. The Baseline Report is to document the Water Table, Water Quality and Vegetation Condition monitoring works, and include rainfall data for the monitoring period. The Baseline Report is to be submitted to Council for review prior to issue of a subdivision works certificate.*

*All subsequent Progress Reports and the Final Report as set out in the BMP should compare changes in site conditions (including changes in groundwater levels) to the Baseline Report.*

*Reason: To protect groundwater dependent ecosystems, native vegetation, wildlife and habitats.*

*122. Compliance with Ecologist's Recommendations – Pre-construction*

*All impact mitigation measures specified in section 8.5 of the approved Biodiversity Development Assessment Report (Cumberland Ecology Version 5 dated 29/2/24), as summarised in Table 15, are to be implemented at the appropriate stage of development.*

*Compliance with these measures is to be certified by the Project Ecologist in writing to the Principal Certifier prior to issue of any Subdivision Works Certificate.*

*Reason: To confirm compliance with wildlife and habitat protection/replacement measures.*

Note: TreeHouse Ecology does not provide vegetation restoration works directly as required by Conditions 92, 93 & 121. We will organise to have our sub-contract restoration companies undertake this work under our direction or will ensure someone is directly engaged for these items.

Specific measures to be provided by a project ecologist as outlined by the *Biodiversity Development Assessment Report (Cumberland Ecology Version 5, 29/2/24)* include:

*8.5. Mitigation of Impacts to Native Vegetation and Habitat*

*A range of mitigation measures have been developed for the project to mitigate the impacts to native vegetation and habitat that are unable to be avoided. These include a range of measures to be undertaken before, during and after construction to limit the impact of the project. Each mitigation measure is discussed in detail below, and a summary is provided in Table 15.*

*8.5.1. Weed Management*

*In order to minimise the spread of weeds throughout the subject land and adjoining areas, appropriate weed control activities will be undertaken prior to vegetation clearing in accordance with the Greater Sydney Management Region and is subject to the Greater Sydney Regional Strategic Weed Management Plan 2023 – 2027 (NSW Local Land Services 2022) under the NSW Biosecurity Act 2015.*

*The Biosecurity Act 2015 and regulations provide specific legal requirements for state level priority weeds and high risk activities, as provided in the Appendices of the Greater Sydney Regional Strategic Weed Management Plan 2023 – 2027 (NSW Local Land Services 2022). To comply with the objectives of the Greater Sydney Regional Strategic Weed Management Plan, it is recommended the following measures be implemented as part of weed management for the subject land.*

*i. Prevention*

*Appropriate construction site hygiene measures will be implemented to prevent entry of new weeds to the area such as the cleaning of equipment prior to entering the subject land.*

*ii. Eradication*

*Initial weed management will be carried out within the subject land according to best-practice methods under the direction of a suitably qualified bush regenerator. The targeted species will be those listed under Appendices 1 and 2 of the Greater Sydney Regional Strategic Weed Management Plan 2023 – 2027 (NSW Local Land Services 2022). Initial weed treatment will include eliminating woody species and targeting large dominant infestations of exotic herbs. This may be achieved via a combination of manual weed removal and herbicide use. Weed management will focus on the removal of targeted species from within landscaping areas.*

*Best-practice bush regeneration should undertake measures to avoid adverse impacts to retained vegetation within the subject land, including not over clearing (remove only targeted species), employment of minimal disturbance techniques to avoid soil and surrounding vegetation disturbance, and replacement of disturbed mulch/leaf-litter.*

*iii. Containment*

*Follow-up monitoring and maintenance should be undertaken in landscaping areas following construction, to contain any re-emergence of weed species.*

### *8.5.2. Delineation of Clearing Limits*

*The current limits of clearing will be marked either by high visibility tape on trees or metal/wooden pickets, fencing or an equivalent boundary marker that will be installed prior to clearing. To avoid unnecessary or inadvertent vegetation and habitat removal or impacts on fauna, disturbance must be restricted to the delineated area and no stockpiling of equipment, machinery, soil, rock or vegetation will occur beyond this boundary.*

### *8.5.3. Tree Protection Measures*

*As trees to be retained have the potential to be impacted during the construction of the proposed development, tree protection measures are proposed to be implemented to avoid inadvertent impacts to trees that are marked for retention. These measures include the implementation of Tree Protection Devices, tree protection fencing, and relevant signage.*

### *8.5.4. Pre-clearance Surveys*

*To minimise impacts to fauna species during construction, pre-clearance surveys will be conducted in all areas of vegetation that are required to be cleared. Pre-clearing surveys will be undertaken within one week of clearing activities by a qualified ecologist.*

*Habitat features to be identified include:*

- *Hollow-bearing trees;*
- *Human-made structures;*
- *Rock; and*
- *Log Piles.*

*Such features have the potential to contain native species. All habitat features will be identified, recorded and flagged with fluorescent marking tape and trees will have an "H" spray painted with marking paint on two sides of the tree.*

### *8.5.5. Staging of Clearing*

*The clearing will be conducted using a two-stage clearing process as follows:*

*Stage 1: Clearing will commence following the identification of potential habitat features by a qualified ecologist. Hollow-bearing trees marked during pre-clearing will not be cleared during the first stage. However, all vegetation around these trees will be cleared to enable isolation of the feature. Other habitat features, such as hollow-bearing logs, can be removed during Stage 1 only if done under supervision by a qualified ecologist.*

*Identified hollow-bearing trees will be left at a minimum overnight after Stage 1 clearing to allow resident fauna to voluntarily move from the area.*

*Stage 2: After hollow-bearing trees have been left overnight, the trees will be cleared using the following*

*protocols:*

*• Trees marked as containing hollows will be shaken by machinery prior to clearing to encourage any animals remaining to leave the hollows and move on;*

*• Use a bulldozer or excavator to start pushing the tree over. Move the bulldozer over the roots and continue gently pushing the tree over;*

*• Remove branches with hollows and sections of trunk and set aside for immediate transfer to a storage area for placement within retained vegetation; and*

*• All hollows will be investigated by an ecologist for the presence of fauna following felling of the tree.*

*The felled habitat tree will be left overnight to allow any remaining fauna time to leave the hollows and move on.*

*The two-stage clearing process enables fauna a chance to self-relocate upon nightfall, when foraging typically occurs.*

*Provisions will be made to protect any native fauna during clearing activities by the following means:*

*• All staff working on the vegetation clearing will be briefed about the possible fauna present and should avoid injuring any present;*

*• Animals disturbed or dislodged during the clearance but not injured will be assisted to move to adjacent bushland or other specified locations; and*

*• If animals are injured during the vegetation clearance, appropriate steps will be taken to humanely treat the animal (either taken to the nearest veterinary clinic for treatment, or if the animal is unlikely to survive, it will be humanely euthanised).*

*Provision of a report following the completion of clearing works will be provided detailing the total number and species of individuals recorded and details of their release/health.*

### *8.5.6. Sedimentation Control Measures*

*The project may result in erosion and transport of sediments because of soil disturbance during construction.*

*In order to prevent this impact, construction activities will be undertaken in accordance with "The Blue Book" and the Civil Engineering Works report for the project (ACOR Consultants 2024).*

*According to the Civil Engineering Works report, all sediment and erosion control methods shall be made consistent with the Northern Beaches Council guidelines and the Department of Housing's 'Managing Urban Stormwater; Soils and Construction Manual' (Landcom 2004). Additionally, no construction works will commence until all sediment and erosion control measures have been inspected by the principal certifying authority, and will be regularly inspected to ensure the measures' correct and efficient function throughout the duration of the construction activities until the principal certifying authority is satisfied that the measures can be removed. Further measures include dust control for the entirety of the construction activities, and all stockpiles are to be clear of all retained trees and drainage lines such that they are protected from erosion.*

### *8.5.7. Stormwater Management Measures*

*Considerable effort has been taken by the ACOR Consultants (2024) to ensure that engineering plans provide an outcome that accommodates the maintenance of base flows currently servicing the TEC. At this stage, it is expected that future flows will be largely limited to +/- 10% of current conditions (ACOR Consultants 2024).*

*This is achieved through a multi-faceted approach including structures designed to regulate flow differently during low flow events vs high flow events. Specifically, a low flow weir has been designed into the proposed culvert to regulate flow into Narrabeen Creek that will mimic pre-development flow levels. During high flow events, are managed using a level spreader and energy dissipater that is designed into the proposed swale, that will act to spread flow evenly across the rear of the study area that is expected to be within +/- 10% of the current conditions (ACOR Consultants 2024). Additionally, measures include incorporating rainwater reuse tanks for use by the proposed dwellings and residential flat buildings.*

### *8.5.8. Habitat Feature Salvage*

*Where present, fauna habitat features including hollow-bearing trees and rock will be salvaged from the subject land during clearing and stockpiled for future use in restoration of the BMP Area. The placement of salvaged items will increase habitat complexity as such items are used by a variety of invertebrate and vertebrate species as microhabitat areas.*

*Habitat features are to be stored until such time as restoration of the BMP Area commences. Storage must be undertaken within designated stockpile areas, with onsite contractors made aware material is to be retained, to prevent loss of stored habitat features prior to utilisation. Placement of stored habitat features within the BMP Area will be undertaken in co-ordination with an ecologist.*

*Tree limbs containing hollows felled during the clearing process will be relocated within the BMP Area. These will be used for habitat reconstruction within the BMP Area. Hollows will be trimmed by a tree removal specialist and will be relocated to trees within the BMP Area. When the relocation of a hollow is not possible, a nest box will be placed in a tree in the BMP Area to ensure that all lost arboreal habitat is either relocated or replaced.*

*Hollows to be translocated will be those that are structurally sound to the extent that they survive the trees felling and subsequent translocation. The suitability of each hollow is to be determined during pre-clearance surveys by an ecologist.*

*8.5.9. Biodiversity Management Plan*

*Areas of the study area that will be retained will be rehabilitated and managed in the longer term under a Biodiversity Management Plan. The rehabilitation of Swamp Mahogany Forest includes a 0.88 ha area that will be managed and revegetated where appropriate using a full suite of species indicative of the TEC, and a range of these species of shrubs and groundcovers will be prioritised across landscaped areas of the site. It is*

*understood that following an initial period of five years, the area within 25 m of the rear boundary of the study area along Narrabeen Creek will be dedicated to Northern Beaches Council.*

*A Biodiversity Management Plan has been prepared as part of the project (21097RP3).*

*8.5.10. Landscaping with Swamp Mahogany Forest Species*

*Where possible, it is recommended that native plant species characteristic of Swamp Mahogany Forest be incorporated into the landscape plan for the subject land. A recommended species list is provided in the BMP (doc. 21097RP3). All native re-plantings should be sourced from local nurseries or come from seed sourced from the property.*

Specific measures to be provided by a project ecologist as outlined by the *Biodiversity Management Plan (Cumberland Ecology Version 5, dated 29/2/24)* include:

*Vegetation Clearing Plan*

*5.1. Hygiene Protocols*

As stated

*5.2. Environmental Inductions*

*Inductions will be undertaken for all personnel who will work within the BMP Area prior to the commencement of any works. The induction will specify in detail which areas of vegetation are approved to be removed and the importance of not damaging retained vegetation, as all native vegetation comprises an occurrence of an EEC. The induction will specify that unauthorised personnel are not permitted to enter retained vegetation areas, and that no machinery or stockpiling of materials is permitted within the BMP Area.*

*5.3. Protection of Vegetation during Construction Phase*

As stated

*5.4. Clearing Supervision*

*An inspection of all vegetation to be removed will be undertaken on each morning of clearing works prior to clearing commencing. The inspection will be undertaken by a qualified ecologist in order to determine that no fauna species are present within vegetation to be cleared or nearby vegetation.*

*The attending ecologist must also supervise the removal of all vegetation required to be removed. If clearing is undertaken in two separate sections, one ecologist is required to supervise the removal of vegetation within each section.*

*5.5. Salvage of Habitat Items*

As stated

*5.6. Weed Management During Clearing*

As stated

*5.7. Erosion and Sediment Control*

As stated

Note: TreeHouse Ecology does not provide vegetation restoration works directly as required by the BMP. We will organise to have our sub-contract restoration companies undertake this work under our direction or will ensure someone is directly engaged for these items.

Please let me know if you have any questions.

Kind regards,

**Corey Mead**
*Fauna Ecologist* *B App Sc BAAS 19050*
E: corey@treehouseecology.com.au
Ph: 0401557882

ECA ECOLOGICAL CONSULTANTS ASSOCIATION of NSW Inc
2024 PRACTISING MEMBER

**Department of Climate Change, Energy, the Environment and Water**

# Scientific Licence

***Biodiversity Conservation Act 2016***

| **Name and postal address of principal licensee** | **Nominated premises (where appropriate)** |
|---|---|
| Mr Corey Mead<br>TREEHOUSE ECOLOGY PTY LTD<br>3 RYSDYK PDE<br>WAMBERAL NSW 2260 | |

**Your licence number is:** SL102477

**This licence is valid from:** 01 September 2024

**This licence will expire on:** 31 August 2026

**Additional authorisations:**

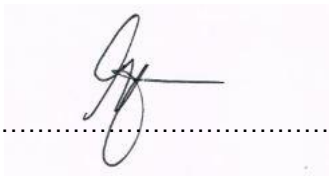
**Project Title:** Ongoing Fauna Surveys

**This class of biodiversity conservation licence granted under Part 2 of the *Biodiversity Conservation Act 2016* authorises the following activities:** Harm, by means of capture, deal in (possess), and liberate protected and threatened animals for survey purposes; Pick and deal in (possess) protected and threatened plants for identification purposes.

This licence authorises the principal licensee and any associates named in **Attachment A** to conduct those activities authorised above, to those species, communities or materials listed in **Attachment B**, at the locations specified in **Attachment C** of this licence.

This licence also authorises the principal licensee to conduct research on National Park estate under clause 26 of the National Parks and Wildlife Regulation 2019 *(*NPW Reg*),* where this forms part of a project approved by a delegated officer of the *Biodiversity Conservation Act 2016*.

This licence is granted subject to the provisions of *Biodiversity Conservation Act 2016*, Biodiversity Conservation Regulation 2017, the general conditions listed below, any special conditions as may be notified in writing to the licensee by the Environment Agency Head of the Department of Climate Change, Energy, the Environment and Water (the Department) or a 'delegated officer' of the *Biodiversity Conservation Act 2016* and the Department's "Scientific Licensing Policy".



…… ……..……..……..

**Signature of Delegated Officer** **Signature of Principal Licensee***

Date: 29 August 2024 Date:..……..

* This licence is not valid unless it is signed by the principal licensee. By signing this licence, the licensee agrees that they have read, understood and agree to comply with all of the conditions listed on the licence.

# Animal Research Authority

*Animal Research Act 1985, Section 26*

On the recommendation of the Secretary's Animal Care & Ethics Committee, Animal Research Authority (ARA) details are as follows:

| | | | |
|---|---|---|---|
| ACEC ARA Number | V20/32969 | | |
| Project title | Ongoing Fauna Survey | | |
| ARA Approval Period | 19/10/2024 until 19/10/2025 (12 months) | | |
| Project Approval Period | 19/10/2023 until 19/10/2028 (5 years) | | |
| Principal Investigator | Corey Mead | | |
| Associate Investigators* | Alex Fraser | Bradley Gabriel | |
| Other Participants* | Bianca Mead | Jekai Mead | |
| Type of Research | Fauna surveys for impact and development assessment. Monitoring animals for habitat suitability and success. | | |
| Location | Various locations throughout New South Wales | | |
| Approved Animals | All vertebrates | | |
| Purpose category | A7 | | |
| Procedure category | P3 | | |

Approved Capture and Non-Capture Survey Methods: indicated by checked boxes ☒

| | | | | | |
|---|---|---|---|---|---|
| Terrestrial Capture Survey Methods | | | | | |
| ☒ | Elliott traps | ☒ | Cage traps | ☒ | Dry Pitfall traps |
| ☒ | Mist nets | ☒ | Harp Traps | ☐ | Trip lines |
| ☒ | Funnel Traps | ☐ | Pipe traps | ☒ | Hand capture |
| ☐ | Radio tracking | ☐ | | ☐ | |
| Terrestrial Non-Capture Survey Methods | | | | | |
| ☒ | Visual and auditory observation (Diurnal and nocturnal census) | ☒ | Songmeters and other acoustic recorders | ☒ | Anabat detector and other ultrasonic detectors |
| ☒ | Scat, scratch and track searches and analysis | ☒ | Photography with no flash | ☒ | Use of thermal/night vision equipment |
| ☒ | Hair tubes/funnels | ☒ | Call playback | ☒ | Remote camera traps |
| ☒ | Spotlighting | ☒ | Stag watching | ☒ | Bird transects |

| | | | | | |
|---|---|---|---|---|---|
| ☐ | Nest Boxes | ☐ | Tile grids/artificial shelters | ☒ | Habitat searches e.g., rock, log or bark rolling, leaf and litter searching |
| ☐ | Drones | ☐ | | ☒ | Radio tracking |

Please note: Spotter catcher/relocation work is not considered animal research under the *Animal Research Act 1985* and is not covered by this ARA. Surveys to determine presence of animals pre or post land clearance are animal research and are covered by the ARA.

Approved methods of sampling, identification and tracking

1. Non-toxic marker

Conditions of Approval Applicable to this Project

1. The Secretary's ACEC is to be notified of the specific location of each survey prior to work being commenced, including details of:
    a. the procedures to be undertaken
    b. any Other Participants* not named on this Animal Research Authority
    c. subcontractors who participate in this project that have their own ARA through the Secretary's ACEC which covers the type of work they are being subcontracted to do

    Notifications must be made via the relevant form.
2. Any new Principal or Associate Investigators* must be added to this Animal Research Authority by submitting a modification application for ACEC approval at a scheduled meeting.

Conditions of Approval Applicable to all Projects

1. The Secretary's ACEC reviews and approves projects for their compliance with the NSW *Animal Research Act 1985* (and its associated Regulations) and the 2013 NHMRC Australian code for the care & use of animals for scientific purposes. All personnel named on the project application should be conversant with these documents.
2. The approval is in accordance with your original submission together with any additional information provided as part of the approval process. Under NO circumstances may you or your associate investigators depart from the approved project without the prior consent of the Committee.
3. Any changes to the project must be approved by the ACEC before implementing the changes. This includes submitting a modification application to the ACEC regarding any changes to location, source or type of animals, animal numbers, location of animals and changes to experimental or survey procedures.
4. The procedures outlined in the project application must be strictly adhered to.

5. Records of animal monitoring must be readily accessible in the holding area at all times.
6. In the event of an unexpected adverse event, the Australian Code requires that investigators promptly notify the ACEC in writing.
7. The ACEC will make routine inspections of the animals held in fixed facilities.
8. It is the Principal Investigator's responsibility to ensure that all other permit and licensing requirements relating to the planned activities are met. Records must be provided to the ACEC on request.

This Animal Research Authority is a legal document. Failure to comply with the conditions of this Authority is an offence under the *Animal Research Act 1985* Section 47 (2).

Dr Natalie Moltschaniwskyj
Chief Scientist
Group Director, Chief Scientist Unit
Date: 16 October 2024

Modifications approved by Secretary's ACEC

| Date AEC approved | Modification details |
|---|---|
| 4/12/2023 | Addition of Bradley Gabriel as Associate Investigator |

*Personnel Definitions:

Principal Investigator (PIs) is the person who is applying for project approval by the ACEC and has ultimate responsibility for the project and everything that is undertaken in the project. PIs must:

1. ensure that all people involved in the project understand and accept their roles and responsibilities
2. ensure that procedures and resources are in place so that all people involved in the care and use of animals in the project can meet their responsibilities, including their education, training and supervision, as appropriate
3. be competent with respect to the wellbeing of animals used in the project.

To change the PI for a project, a modification application must be submitted and approved by the ACEC at a scheduled meeting. A CV and two independent written references that support the experience of the new PI in the type of work the project involves must be submitted with the modification application. PI modifications will not be dealt with out of session.

# COREY MEAD

Address: 3 Rysdyk Pde, Wamberal NSW 2260
ACN: 644 302 796
Mob: 0401 557 882
Email: corey@treehouseecology.com.au
Website: www.treehouseecology.com.au

Brighton Downs Qld – Night Parrot re-discovery 2013

With over 20 years' experience in undertaking fauna surveys and preparing habitat and impact assessment reports for threatened biodiversity, I feel fortunate to do what I do. I am available for survey, reporting, project ecology, analysis, nest boxes, relocated hollows, hollow augering and wildlife monitoring. I have all appropriate insurances, licences, accreditation, injections, and equipment.

From finding rare animals in remote parts of Australia to appreciating locally common species, I love the challenges of working out both habitat values and outcomes for clients. In more recent years I have gained valuable insights from working alongside several industry recognised experts, yet still feel most comfortable connecting with wildlife on my own.

## RELEVANT EDUCATION / QUALIFICATIONS

- Ecological Consultants Assn of NSW – Councillor 2024
- Southern Cross University – B App. Sc 1994
- BAM Accredited Assessor (BAAS.19050)
- Accredited Biobanking Assessor (No.231)
- Scientific License (SL102477)
- Animal Ethics Permit (TRIM V20/32969)
- Licence to Harm Protected Animals (MWL000103525)
- Bionet Sensitive Species Data License (No. 1589)
- NSW NPWS – Introduction to Arcview GIS
- Anabat Techniques Training – Titley Scientific
- Frog, Reptile & Bat Survey Training – NSW Forestry
- Tree climbing techniques (AHCARB312)
- Chainsaw operation training (animal recovery)
- Risk Assessment Training (Taronga Zoo)
- Australian bat Lyssavirus vaccinations
- Cert III – Building & Carpentry (nest boxes)
- First Aid Certificate (HLTAID003)
- Class C vehicle, Boat & Divers Licences
- OHS General Induction (CGI00761144SEQ1)

## SKILLS / EXPERIENCE

- Remote and independent terrestrial vertebrate surveys
- Threatened fauna target surveys & assessment
- Fauna support for Land & Environment Court cases
- Report writing (BDAR / BCAR / BSSAR / KAR / and other fauna related assessment, monitoring and management reports)
- BAM-C fauna data and credit assessment
- Kaleidoscope song-meter clustering & classifier analysis
- Prepare song classifiers for threatened owls, frogs & gliders
- Radio-tracking Surveys
- Owl roost and nest surveys
- Microbat ultrasonic call identification & active monitoring
- AnalookW, Anapocket, Insight & CFC Read bat analysis software
- Coordinate the relocation of large owl hollow sections and entire 9 tonne trunks containing large owl hollows with cranes and climbers
- Full range of fauna trapping techniques / equipment
- Project Ecologist during habitat clearance
- Habitat tree assessment / Audits
- Construct and supply long-life nest boxes
- Advanced animal captive management
- Advanced venomous snake handling & training for zoo staff

## EMPLOYMENT HISTORY

- Nov 2020 – Current – Contract Fauna Ecologist – TreeHouse Fauna Services
- May 2011 – Nov 2020 – Senior Fauna Ecologist – Travers Bushfire & Ecology
- Oct 2007 – May 2011 – Fauna Ecologist – Travers Bushfire & Ecology
- Jan 2006 – Oct 2007 – Field Tech / Fauna Ecologist – Conacher Travers Environmental Consultants
- Feb 2003 – Jan 2006 – Head Reptile Keeper – Australian Reptile Park
- Jan 2003 – Sept 2005 – Visitor Services Officer – National Parks & Wildlife Service
- Dec 2002 – Jan 2003 – Marine Turtle Project Officer – National Parks & Wildlife Service
- Aug 2000 – Feb 2003 – Venom Room Keeper – Australian Reptile Park
- Apr 1997 – Sept 2000 – Environmental Education Officer – Australian Reptile Park


## PHONE REFEREES

- John Travers - Director *Travers Bushfire & Ecology* - 0418 630 048
- Elizabeth Ashby - Director *Keystone Ecology* - 0418 680 566
- Rochelle Lawson - Senior Ecologist Central Coast Council - 0429 124 316

## FIELDWORK WITH SPECIALISTS

- **Dr Steve Phillips** in the application of Koala grid based surveys (Glenning Valley).
- **John Young** on owl nest/roost searches (Lake Macquarie, Spring Farm, Chain Valley Bay) and rare birds through remote Queensland
- **Gerry Swan** on Heath Monitor ecology (Beacon Hill and Belrose)
- **Prof Michael Mahony** on Giant Burrowing Frog target surveys (Belrose)
- **Dr Ross Goldingay** on Yellow-bellied Glider target surveys, monitoring and seasonal habitat resources (Cattai)
- **Dr Ross Goldingay** on Eastern Pygmy Possum target surveys and detailed habitat assessments (Belrose)
- **Ross Wellington** on Green-thighed Frog, Giant Barred Frog and Stuttering Frog habitat assessments (Mardi)
- **Dr Richard Noske** on assessment of Varied Sittella (Spring Farm)

## SIGNIFICANT CAREER ACHIEVEMENTS

- Prepared the ***Guideline for the Relocation of Large Tree Hollows*** for Central Coast Council and cited by the BCT
- Assisted John Young in the re-discovery of the **Night Parrot** recording the first call and breeding location in over 100 years in 2013.
- Provided the only then capture of ***Pseudechis weigeli*** brown snake in remote Kimberley's for Discovery Channel documentary in 2002.
- Provided Western Diamondback Rattlesnake handling assistance for **Steve Irwin**.
- Assisted **Malcolm Douglas** in breeding and management of Saltwater Crocodiles
- Captures of ***Morelia carinata*** python in remote WA providing new understanding of the species ecology.
- Article on Australian Snakes for **Outdoor Magazine Australia**.
- Developed and implemented a **Wildlife Education Program** for schools across Australia.
- Developed a **Fire Trail Auditing** system for Gosford City Council Natural Areas.
- Collation of state-wide **Marine Turtle records** for NSW National Parks & Wildlife Service and development of awareness programs.
- Developed a comprehensive **staff training program** at the Australian Reptile Park.
- Provided regular guest appearances to provide animal educational segments on Channel 10's ***Totally Wild.***
- Venomous Snake Handling Training for **Dreamworld** and **Currumbin Sanctuary** zoo staff.
- Undertaken independent travel with fauna experience through the Americas and Africa.

# COREY MEAD

## FAUNA ECOLOGIST

**THREATENED FAUNA SPECIES RECORDED**

*Presumed Extinct (NSW)*

- Night Parrot n/a

*Critically Endangered Species (NSW)*

- Regent Honeyeater **
- Beach Stone-curlew **

*Endangered Species (NSW)*

- Green and Golden Bell Frog *
- Giant Barred Frog *
- Mahony's Toadlet *
- Stuttering Frog *
- Loggerhead Turtle *
- Leatherback Turtle *
- Blue Mountains Water Skink *
- Hunter Valley Delma *
- Dugong n/a
- Grey Falcon
- Southern Giant Petrel n/a
- Black-necked Stork
- Pied Oystercatcher *
- Plains Wanderer **
- Bush Stone-curlew *
- Swift Parrot **
- Black-striped Wallaby
- Brush-tailed Rock Wallaby *
- Cumberland Plain Land Snail *
- Dural Land Snail *
- Maroubra Woodland Snail *

*Vulnerable Species (NSW)*

- Wallum Froglet *
- Red-crowned Toadlet *
- Giant Burrowing Frog *
- Sloane's Froglet *
- Littlejohn's Tree Frog *
- Green Turtle *
- Flatback Turtle
- Hawksbill Turtle n/a
- Stimson's Python *
- Western Blue-tongue Lizard
- Rosenberg's Goanna
- Osprey **
- Little Eagle **
- White-bellied Sea Eagle **
- Black-breasted Buzzard **
- Spotted Harrier
- Square-tailed Kite **
- Magpie Goose
- Black Bittern
- Sooty Oystercatcher *
- Greater Sand Plover **
- Lesser Sand Plover **
- Bar-tailed Godwit **
- Red-tailed Black-Cockatoo **
- Glossy Black-Cockatoo **
- Gang-gang Cockatoo **
- Major Mitchell's Cockatoo **
- Swift Parrot **
- Turquoise Parrot
- Little Lorikeet
- Wompoo Fruit-dove
- Superb Fruit-dove
- Rose-crowned Fruit-dove
- Painted Honeyeater
- Black-chinned Honeyeater
- Grey-crowned Babbler
- Hall's Babbler
- Powerful Owl **
- Barking Owl **
- Masked Owl **
- Sooty Owl **
- Marbled Frogmouth
- Speckled Warbler
- Brown Treecreeper
- White-fronted Chat
- Varied Sittella
- Hooded Robin
- Scarlet Robin
- Flame Robin
- White-eared Monarch *
- Diamond Firetail
- Spotted-tailed Quoll
- Parma Wallaby *
- Long-nosed Potoroo *
- Brush-tailed Phascogale *
- Common Planigale *
- Eastern Pygmy Possum *
- Koala **
- Squirrel Glider *
- Yellow-bellied Glider
- Grey-headed Flying-fox **
- Yellow-bellied Sheathtail-bat
- Large-footed Myotis *
- Little Bent-winged Bat **
- Large Bent-winged Bat **
- Greater Broad-nosed Bat
- Eastern Cave Bat *
- Eastern Coastal Free-tailed Bat
- Eastern False Pipistrelle
- Eastern Long-eared Bat
- Corben's Long-eared Bat
- Large-eared Pied Bat *
- Little PLied Bat
- Hoary Wattled Bat
- Golden-tipped Bat

*EPBC Listed & Migratory Protected Species* (not otherwise listed above)

- New Holland Mouse
- Greater Glider
- White-throated Needletail
- Fork-tailed Swift
- Rainbow Bee-eater
- Black-faced Monarch
- Spectacled Monarch
- Satin Flycatcher
- Rufous Fantail
- Latham's Snipe
- Eastern Curlew

* species credit species
** dual credit species