



## Information for Land Managers

### Background

Bush Blitz is a species discovery partnership program between the Australian Government, BHP Billiton Sustainable Communities and Earthwatch Australia. Established in 2009, the program focuses on taxonomy and includes support for fieldwork, specimen curation, follow-up taxonomic research and reporting.

The Bush Blitz objectives are:

- Improved knowledge of the existence and location of Australia's terrestrial biodiversity.
- A stronger capacity to deliver taxonomic services and support taxonomic science in Australia's scientific institutions.
- A greater awareness of the importance of taxonomy, biodiversity and research in the Australian community.
- Land managers, planning agencies, scientists and the resource sector have greater access to current information on Australia's biodiversity.

Bush Blitz expeditions focus on target taxa chosen in consultation with the Bush Blitz Scientific Reference Group.

Bush Blitz Target Taxa are:

- Vascular Plants (flowering plants)
- Reptiles and Amphibians
- Arachnids (specifically spiders)
- Lepidoptera (butterflies and moths)
- Gastropoda (slugs and snails)
- Heteroptera (true bugs)
- Odonata (dragonflies and damselflies) [to be covered by a scientist covering another taxa]
- Stygofauna (groundwater fauna) {where there are good collection sites and clear benefit}
- Hymenoptera (ants) and carabidae (ground beetles) [when the expertise is available and resources allow]
- Lichens (where there is expertise and clear benefit)

Bush Blitz recognises that State and Territory institutions and agencies, and land managers may have priorities that are not encompassed within the Bush Blitz target taxa; these taxa may also be collected if agreed by Bush Blitz. On some Bush Blitz expeditions collections will include live cuttings for botanic garden living collections and seed for conservation seed banks. Bush Blitz encourages the collection of genetic material by all scientists where possible.

## **Site Selection**

Expedition sites are selected by ABRS in consultation with the Bush Blitz partners using information provided by the CSIRO Bush Blitz Gap Analysis project, other data and expert opinion. Survey locations include but are not limited to national and state listed reserves, land protected via covenant, Indigenous Protected Areas (IPA) and indigenous owned land.

## **Site Specific Arrangements**

The Bush Blitz team is responsible for making initial contact with State agencies, NGOs, and formal representatives of Traditional Owners and/or custodians (e.g. Land Councils, corporations and associations) that manage properties.

The Bush Blitz team will undertake the following steps:

- contact the land owner regarding site access and obtain permission to conduct fieldwork on the property, including permits;
- liaise with the land owner on the timing of fieldwork and logistics;
- develop a Fieldwork Agreement between Bush Blitz and the land owner;
- collect from the land owner background information such as species lists, vegetation and topographic maps.

Reserve management agencies are welcome to send representatives to observe the fieldwork on their property. Bush Blitz will provide some logistical support for observers; however, travel costs and wages cannot be covered for reserve management representatives.

## **Scientist Selection**

Bush Blitz is designed to include a range of scientists with expertise in taxonomy and species discovery from institutions across Australia. Scientists with the relevant expertise in species discovery are most commonly associated with National, State and Territory Museums and Herbaria as well as Universities. Bush Blitz particularly encourages the involvement of early career taxonomists and PhD students.

## **Fieldwork Logistics**

Logistics will be coordinated by Bush Blitz.

Bush Blitz will provide a field manager and at least one assistant, and will undertake the following logistics during expeditions:

- ensure scientists obtain collection permits and ethics approval;
- undertake a reconnaissance trip to the site in consultation with the land managers;
- coordinate transport for contracted scientists from the rendezvous point (usually the closest town/city airport) to the site;
- provide fuel and vehicles for contracted scientists for the duration of the fieldwork;
- provide accommodation (in bunk-houses (if available) or tents and swags), a field lab, toilets and showers, all meals and a cook;
- undertake camp maintenance; and
- coordinate helicopter schedules.

Bush Blitz will discuss with the land manager the use of facilities for a base camp; such as accommodation buildings, sheds, toilets, showers, power and water, internet and telephone access,

access to diesel for vehicles. Costs such as telephone usage and diesel, will be reimbursement to the land manager following receipt of a correctly rendered invoice.

Bush Blitz volunteers (BHP Billiton employees or teachers) coordinated by Earthwatch Australia are involved with approximately 60% of Bush Blitz expeditions.

When a ranger group or traditional owners participate in the expedition, Bush Blitz requires that a coordinator accompany the group.

### **WH&S and Risk Management**

Site specific risk assessments are undertaken by Bush Blitz and provided to the land manager and all participants prior to fieldwork, along with a comprehensive briefing document and emergency response plan. Each party involved in the Bush Blitz is required to obtain and maintain workers' compensation insurance. In relation to WH&S Bush Blitz will provide:

- communication equipment;
- first aid supplies and a trained senior first aid officer;
- emergency plans; and
- WH&S briefs and de-briefs.

A compulsory on-site briefing will be provided by Bush Blitz at the start of the expedition. Additional briefing will be arranged for those participants joining the team part-way through. Land managers will be given the opportunity to also cover additional WH&S issues or requirements specific to the property and their organisation. If helicopters are in use, the pilot will provide a compulsory helicopter safety brief.

All participants not under contract to the Director of National Parks [Bush Blitz] or participating through Earthwatch will be required to sign a visitor register prior to commencing fieldwork.

In case of emergency, Bush Blitz coordinating staff will liaise closely with the land manager to handle the incident.

### **Fieldwork Methods**

CSIRO will undertake gap analysis modelling at the property level to recommend collection sites. From this analysis, two standard survey sites will be chosen by Bush Blitz in consultation with land managers and scientists. Standard survey sites will be surveyed by all scientists using agreed standard methodologies and soil sampling will be completed at these sites by Bush Blitz staff as part of the Biomes of Australian Soil Environments (BASE) project. The centre of each standard survey site will be permanently marked. The survey area will vary to suit the taxa. The use of standard survey sites provides a unique opportunity to examine broad-spectrum biodiversity. Among other benefits, this will enable CSIRO to test assumptions (e.g. about relationships between the diversity of different taxa) that underpin conservation decisions. It will also allow comparisons between sites, and may be used to establish a basis for future monitoring by reserve managers.

Apart from standard survey sites, site selection and collection methods are at the discretion of the individual scientist based on the best data available for the reserve and their expert knowledge of the individual taxa they are collecting. CSIRO modelling is provided by Bush Blitz to suggest survey locations that thoroughly sample the full range of biophysical characteristics (soil characteristics, elevation, temperature, moisture etc.) on the property.

Bush Blitz will discuss site selection with the land managers to determine sites or species that are of management interest, sensitive sites and places off-limits for fieldwork. Scientists may be asked to incorporate some sites of management interest into their fieldwork and will be required to avoid sites that are off-limits.

Voucher specimens will be collected of both flora and fauna specimens in accordance with the Bush Blitz Vouchering Policy. Vouchering involves euthanizing animals. Voucher specimens are taken of plants and animals to enable identification, clarify their taxonomy and provide reference material for further research.

The following table summarises the various methods that may be used for collection.

<b>Trapping/ Collecting techniques</b>	<b>Used for trapping/collecting</b>	<b>Short Description</b>
Vertebrates	Reptiles, amphibians and small mammals	Harp traps, Elliot traps, Pitfall traps, funnel traps, hand collecting and spotlighting at night
Hand searching/ netting	Most insect groups, as well as other arthropods and associated plants	Picked by hand, caught in a hand net or respirator. Collecting insects falling onto a sheet after spraying the bark of dead branches, logs and live tree trunks, or beating and sweeping vegetation
Malaise trapping	Mostly flying insects	Flight intercept trap made of netting, hung across insect flight paths. Specimens collected into Ethanol
Light trapping	Primarily moths and true bugs	A white sheet with a UV lamp nearby attracts specimens which can then be collected by hand
Berlese trapping	Primary wingless hexapods and myriapods, as well as larvae of other groups	Soil/leaf litter collected into funnels, with a light applied to the top, forcing any specimens to fall down into preserving fluid at the bottom.
Pitfall and hand searching	Spiders	Some spiders are ground dwelling hunters and best caught with small pitfall traps (cup sized) topped up with propylene glycol. Hand collecting and collecting litter is used to catch the smaller less mobile species.
Hand searching in leaf litter	Land Snails	Land snails are collected by hand from under logs and bark (on the ground and on standing trees), under other ground debris and among accumulated litter
Vascular Plant vouchering	Vascular Flora	Broad-scale floristic survey techniques (e.g. transects, quadrates and general 'walk throughs' of an area) will be employed, in order to survey as many different habitats.
Seed collection	Seed	Seed collection may be undertaken where there is an interest by the land owner and seed scientists. Collection will involve harvesting of seed for preservation in seed banks.

## **Reporting**

Point data (latitude and longitude) for all specimens collected during fieldwork, and identified to species level if possible, will be provided to the land manager, national databases and the Australian Government's Australian Natural Heritage Assessment Tool . A written report will be developed by Bush Blitz, which documents the species found on the property including new, rare, threatened and pest species. This report is provided to the land manager and is available to the general public via the Bush Blitz website <<http://www.bushblitz.org.au>>. Bush Blitz will also provide the land manager with a selection of images taken during the fieldwork.

## **Media and Publicity**

Bush Blitz will work with each participating institution to prepare a joint media plan where necessary. A media release may be issued during the expedition. Any institution wishing to release their own media associated with the expedition are asked to first contact Bush Blitz, who will clear the content with the Bush Blitz partners (BHP Billiton and Earthwatch Australia).

Media interest will be coordinated through the Director of National Parks or Earthwatch public affairs team and invited to visit the expedition at times pre-arranged with Bush Blitz. Media are encouraged to attend Open Days when available. No media will be allowed without prior arrangement. Bush Blitz will coordinate the on-site logistics for a media visit in consultation with the land manager.

The Bush Blitz team will post blogs on the Bush Blitz website and Earthwatch Facebook page throughout the expedition. We encourage all participating organisations to post images and video blogs about the expedition. Announcements of new species must not be posted on institutional websites or private social media sites without first consulting with Bush Blitz.

## **Acknowledgements**

All materials produced and media associated with Bush Blitz must acknowledge the Bush Blitz partners. Acknowledgement can be through the use of logos (obtained from the Bush Blitz team) or a statement such as:

*This research was undertaken through Bush Blitz, a partnership project between the Australian Government, BHP Billiton Sustainable Communities and Earthwatch*

or

*Bush Blitz is an innovative partnership between the Australian Government, BHP Billiton Sustainable Communities and Earthwatch Australia. It is the world's first continent-scale biodiversity survey, providing the knowledge needed to help us protect Australia's unique animals and plants for generations to come.*

## **Visitors (stakeholders, VIP's and others) During Expeditions**

Bush Blitz welcomes the opportunity to showcase its work; however, expeditions have a limited capacity to cater for additional people. Extra people can over-stretch resources, such as accommodation facilities, food and transport. Too many visitors can also impact on team dynamics, the science, and the experience offered to TeachLive and BHP Billiton participants.

Stakeholders and VIP's are welcome on site during an expedition in limited numbers and for a short period. They must have prior written consent from Bush Blitz and the land manager before entering the site, and agreement from the Bush Blitz manager before participating in fieldwork. Other visitors are only able to be accommodated as part of a Bush Blitz Open Day or by arrangement with the Bush Blitz team. Bush Blitz reserves the right to refuse visitors access to the site if it considers their presence is likely to adversely impact on expedition activities, special programs such as TeachLive or BHP Billiton employees, pose a risk to WH&S, or if the expedition is at capacity.

Bush Blitz is responsible for the WH&S of all participants and visitors on site during the expedition. All visitors must attend a brief and follow safety directions given by Bush Blitz staff. Failure to comply with WH&S may result in a person being asked to leave.

Open days will be held when possible to enable stakeholders, VIP's, media and other visitors to come and share the scientific discoveries with minimal impact on the expedition.

Unless otherwise pre-arranged with Bush Blitz, all non-Bush Blitz attendees are responsible for their own accommodation, food and transport.

**For more information:**

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