

This Bush Blitz has recorded:

18 new species

(8 true bugs, 4 spiders, 1 snail, 5 lichens)

873

species of plants and animals



676

species not previously known from the reserves

5

threatened species (3 mammal, 2 bird)



10

threatened plant species

17

high-quality seed collections made



Who was involved?

Staff from the Australian Biological Resources Study (Australian Government) coordinated and led the Bush Blitz. Experts from the following organisations carried out the field and laboratory work: Tasmanian Museum and Art Gallery, Tasmanian Herbarium, Tasmanian Land Conservancy, Australian National Botanic Gardens, University of New South Wales, University of Tasmania, Tasmanian Seed Conservation Centre, Queensland Museum and Australian Biological Resources Study.



BushBlitz

SPECIES DISCOVERY PROGRAM

www.bushblitz.org.au

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Image credits

Front cover: The ant-mimicking spider *Poecilopoda zibigniewi* © Robert Whyte. Back cover: Abbey Throssell sweeping for damselflies and dragonflies, Cassandra Nichols © Earthwatch Australia. Inside cover background: Simon Grove and Lily Smith on the banks of the Nive River, Cassandra Nichols © Earthwatch Australia.

Numbered images: 1. Emma Clifton collecting seeds, Cassandra Nichols © Earthwatch Australia; 2. Bracken fern frond above liverwort meadow, Bruce Paton © Earthwatch Australia; 3. *Mulathena fordei*, © Tim Rudman; 4. *Ooperipatellus* velvet-worm, Simon Grove © TMAG; 5. Shouldered Brown (*Heteronympa penelope*), Cassandra Nichols © Earthwatch Australia; 6. Cathy Byrne and Celeste Burns setting up an insect trap, Cassandra Nichols © Earthwatch Australia; 7. *trawtha makuminya*, Matthew Newton © TLC; 8. Simon Grove photographing insects, Cassandra Nichols © Earthwatch Australia; 9. *Amelora oritropha*, Cathy Byrne © TMAG; 10. *Kaveinga abbreviata*, Simon Grove © TMAG; 11. Tasmanian Devil (*Sarcophilus harrisii*) © TLC; 12. *Marchantia berteriana*, Miguel de Salas © Tasmanian Herbarium; 13. Seed collection, Cassandra Nichols © Earthwatch Australia.

Bush Blitz

Five Rivers Reserve and trawtha makuminya Tasmania

18–28 February 2014

Bush Blitz is a multi-million dollar partnership between the Australian Government, BHP Billiton Sustainable Communities and Earthwatch Australia to document plants and animals in selected properties across Australia.

Five Rivers Reserve and **trawtha makuminya** cover approximately 18,000 ha of the south-eastern part of the Tasmanian Central Plateau, and provide high connectivity between the Tasmanian Wilderness World Heritage Area, Walls of Jerusalem National Park, the Central Plateau Conservation Area and state forest. Five Rivers Reserve is so named because the Nive, Little Pine, Pine and Little Rivers and the Serpentine Rivulet flow through it. It was purchased by the Tasmanian Land Conservancy as part of their New Leaf Project. *trawtha makuminya* was secured for the Tasmanian Aboriginal community from a private owner and is managed as a permanent reserve by the Tasmanian Aboriginal Centre.

In a Bush Blitz survey in 2014, Bush Blitz scientists recorded 873 species of plants and animals, including 676 species that were not previously known from the reserves. Eighteen of the species collected are putatively new to science.



Australian Government

Department of the Environment and Energy



What did Bush Blitz find?

The reserves were previously subject to various intensities of commercial timber harvesting, but retain substantial areas of un-logged forest and now include regenerating forest.

Areas of particularly high plant biodiversity are the small alpine marshland at Mackenzie's Tier, small rainforest patches in Viormy, and the riparian corridor of the Nive River, also within Viormy. The discovery of a sassafras forest growing on a liverwort meadow above Serpentine Rivulet appears to be a unique habitat and likely to support isolated invertebrate populations. The meadow itself has an extremely high diversity of liverworts.



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Fauna

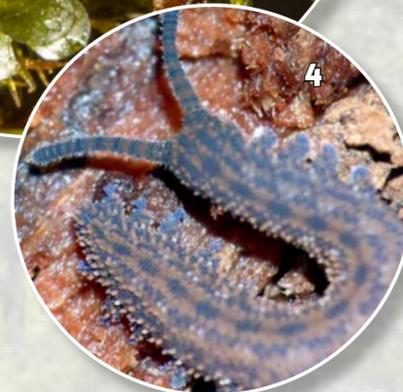
This survey added to the limited information available for this area and in particular provided extensive data on invertebrate fauna. The species collection included 3 ants, 1 bee, 7 butterflies, 123 moths, 1 fly, 86 beetles, 46 true bugs, 1 cockroach, 1 cicadas, 1 leafhopper, 5 damselflies, 7 dragonflies, 86 spiders and 26 snails and slugs. Vertebrate species observations included 15 mammals and 29 birds. Thirteen fauna species are likely to be new to science.

Some notable collections and observations:

- The first observations of the Long-nosed Potoroo (*Potorous tridactylus apicalis*) and the Swift Parrot (*Lathamus discolor*).
- Five active Tasmanian Wedge-tailed Eagle (*Aquila audax fleayi*) nests recorded.
- Discovery of widespread and breeding populations of Tasmanian Devil (*Sarcophilus harrisii*). They generally appeared healthy, with Devil Facial Tumour Disease detected at only 5 of 35 sites.
- Collection of the moth *Leptozelestis* sp. ANIC21 (Cosmopterigidae), which is most likely a new record for Tasmania.
- Discovery of a rare beetle, *Kaveinga abbreviata*, for which there are only a handful of Tasmanian records.
- One of the four putative new spider species, Miturgidae n. gen. n. sp., was found by local student, Robert Beeton. Thirteen-year-old Robert is a proud pakana from the North East Tribe of Tasmania. The species name of this spider will be paruwī, which is pakana for beetle: Beetles was the nickname of Robert Beeton's late father.



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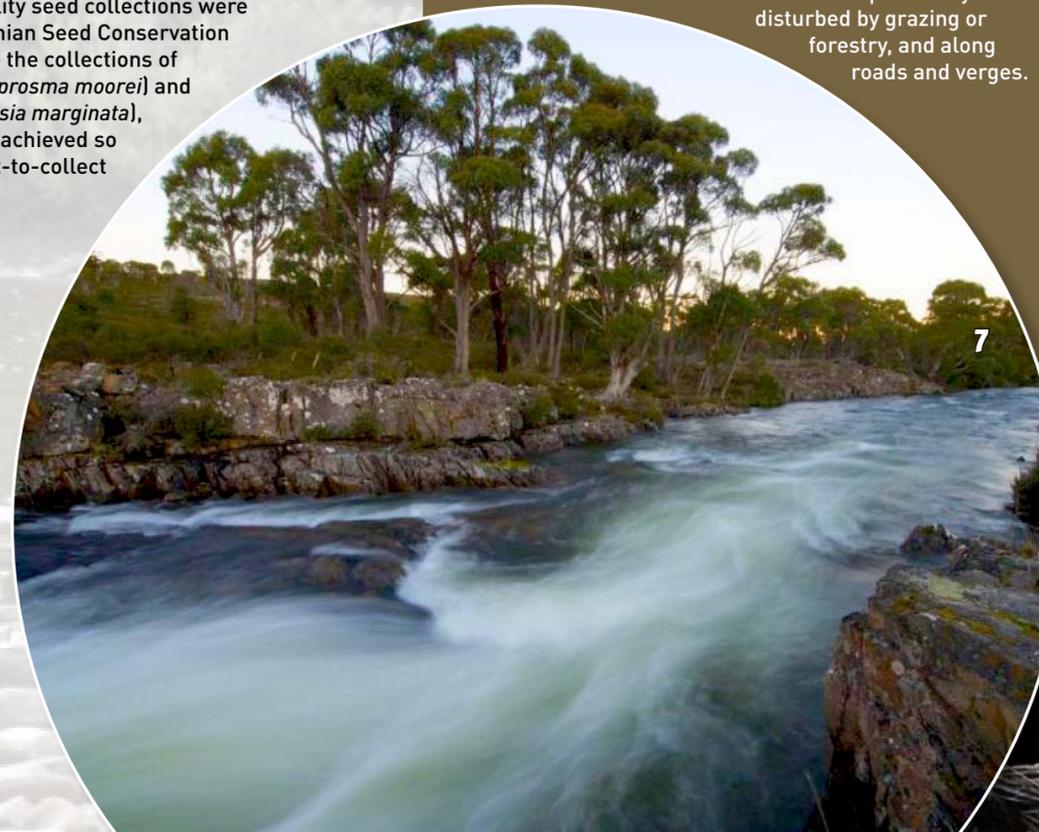


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Flora

248 vascular plant species were collected and recorded. 104 species were new records for these properties. 112 species of lichen were collected, all of which were new records for the properties. Five of these lichens are putative new species. Ten protected plant species were identified on the expedition. 21 liverwort species and 47 moss species were identified, with the majority of these species new records for the reserves.

Seventeen high-quality seed collections were made for the Tasmanian Seed Conservation Centre. Of note were the collections of Blue Matcurrant (*Coprosma moorei*) and Silver Banksia (*Banksia marginata*), which were the best achieved so far for these difficult-to-collect species.



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Exotic and pest species

Fauna

Camera traps allowed researchers to identify nocturnal mammal species. Three mammals identified as pest or exotic were identified: Cats (*Felis catus*), Fallow Deer (*Dama dama*) and Rabbits (*Oryctolagus cuniculus*). Information gathered on Cat populations will aid development of effective ways of reducing their numbers. Fallow Deer is considered a significant pest species on the reserves. Rabbits are widespread and their impact may be serious.

Three insect pests were identified: Buff-tailed Bumblebee (*Bombus terrestris*), Cabbage White Butterfly (*Pieris rapae*) and Rutherglen Bug (*Nysius vinitor*). The Buff-tailed Bumblebee is widespread across Tasmania, and it was observed throughout the reserves. Its impacts are mostly unknown, but it may disrupt pollination of native plants, increase seed set of weeds, and compete with native bees and birds. Three introduced species of money spider and three exotic slug species were recorded, none of which are listed as pest species.

Flora

Thirty species of exotic plants, of which two are declared weeds, were identified. The two declared weeds, Slender Thistle (*Carduus pycnocephalus*) and Ragwort (*Senecio jacobaea*) are subject to Statutory Weed Management Plans. The majority of weeds were restricted to areas previously disturbed by grazing or forestry, and along roads and verges.



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Future management priorities

The main recommendation is to ensure that dead wood is not extensively harvested for firewood. Rainforest fragments should also be protected, as much as is feasible, from wildfire. The sassafras gully habitat appears to be unique and the presence of an isolated land snail suggests it could support other invertebrate populations. Management of the reserve should aim to avoid fire risks to this habitat, which is likely to be very sensitive.



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