

Chambigne – Shannon Creek Nature's Wonderland

November 2014

In Early November, the Chambigne Nature Reserve's reputation as a biodiversity hotspot was further enhanced by a fauna survey of two portions of land adjoining the original nature reserve, that were acquired some 5 years ago.

The combined lots added about 750 hectares to the original reserve, consisting primarily of dry sclerophyll forested land on sandstone, rising from 30 metres to 160 metres above sea level, and which is crossed by a number of creeks, Perennial, Shannon, and Back Creeks, with Chambigne Creek running along the northern boundary, all of which feed into the Orara River.



Typical of the wind and water eroded sandstone formations found in the Chambigne Nature Reserve

In late 2010, soon after the acquisition of that additional land, the Clarence Environment Centre was contracted by the then NSW Department of Environment, Climate Change and Water to undertake a comprehensive flora survey of the new reserve. That survey identified more than 350 plant species including 7 threatened species, 2 endangered ecological communities, several range extensions, and another dozen or more species considered to be “significant” for one reason or another.

The wider Chambigne – Shannon Creek area, which measures only about 15km by 5km, is now known to support more than 900 native plant species, some of which are unique to the area, and grow nowhere else in the world, and at least 20 of which are listed as threatened.

The building of the Shannon Creek dam adjacent to the Nature Reserve, brought a focus to an area, which few had ever heard of. In the late 1990s the fauna survey undertaken by Rohweder and Goldingay, as part of the environmental impact statement (EIS) for the dam, was thorough and comprehensive. That is more than can be said for the flora surveys which were pathetically inadequate, mainly due to the restrictions placed on the botanists by the proponent.



An endangered orchid, *Geodorum tereste*

More than 30 threatened fauna species were identified in those early surveys, so it was seen as important for the Office of Environment and Heritage to formally assess its holdings to determine what species occur there, and how best to manage the reserve to protect those species.

For this latest survey, Clarence Environment Centre volunteers, were again invited to participate by assisting the scientific team led by local ecologist Dr Greg Clancy who, coincidentally, is also a long-time Centre member.



Dr Clancy checking a Sand Monitor caught in one of the cage traps

The survey methodology consisted of trapping using cage, Elliott, and harp traps; along with pit traps, call playback; night spot-lighting, targeted reptile searches, and opportunistic observations. The traps were set at three sites on both blocks, targeting species expected to occur near riparian zones, mid slopes, and ridge tops.

Unfortunately a severe bushfire, started by an irresponsible neighbouring grazer, had burned almost the entire area, a year earlier. This combined with

severe drought conditions over the past 12 months, has left ground-level habitat badly degraded, so the numbers of ground dwelling species, such as Bettongs, Bandicoots, and Potoroos were not expected to be high, and the survey to that point had confirmed those expectations.

Arriving at the camp site in the early morning, our volunteers joined with the survey team who had been camping there for the past three nights, and were just in time to do the rounds to check the traps.

The weather was cool and overcast, providing ideal conditions for the work at hand, and also for any animals that might have been trapped.

Excitement levels were soon raised by finding an endangered Spotted-tailed Quoll in one of the cage traps. It was a male, and the second Quoll to be trapped in the same spot during the survey, the previous animal, a female, assumed to be this one's mate.



An endangered Spotted-tailed Quoll.

surveillance cameras near the dam, had not been sighted by Rohweder and Goldingay 15 years earlier, giving the impression their numbers may be too low to support a viable population into the future.

Pit traps are simply large buckets buried in the ground, their rims level with the surface, designed to capture unwary skinks, small snakes, frogs and other small mammals, as well as invertebrates. The small skink picture at right was, however, caught while sunning itself on a sandstone boulder. It was examined to determine the species, which will then be recorded in Dr Clancy's final report to the Department.



A small skink is captured and identified



Volunteers, Patricia and Annette with, L to R, Dr. Greg Clancy, National Parks' Ranger, Grant Wilcock, and fauna ecologist, Russell Jago, planning the next phase of the operation.

The knowledge that there were a pair of Quolls was an exciting find as they were one of the species which, although subsequently captured singly on



A threatened Squirrel Glider suffers the indignity of having it's tail measured.



Before being released.

A threatened Squirrel Glider was also captured in an Elliott trap. It too was examined to determine its gender, while also having to suffer the indignity of having it's tail measured to differentiate it from its more common cousin, the Sugar Glider.

Other animals captured that night were a Sand Monitor (Goana), and a threatened Brush-tailed Phascogale. Yellow-bellied Gliders, were also heard, but not captured, as were other threatened species such as the Little Lorakeet, and Brown Treecreeper.



A juvenile Brush-tailed Phascogale scampers up a tree after release from an Elliott trap.



Maundia triglochinos

An unexpected outcome of the day's activities was the chance discovery by one of the volunteers of a small population of an endangered swamp plant, *Maundia triglochinos*, in a small Billabong adjacent to Perennial Creek. It had not been identified during earlier surveys, and brought the total of threatened plants known to occur on the property to eight. It also reinforces the benefit of undertaking multiple surveys that encompass all seasons, so that any plants that aren't evident, or flowering, during one survey, are picked up during the next.