

Mammal Surveys and Works in Hamilton – Grange Burn, Municipal Tip & Parklands

Lionel Elmore provided the early stimulus for HFNC work in preserving the Eastern Barred bandicoot (EBB) (*Perameles gunnii*). Lionel's association with John Seebeck (Arthur Rylah Institute for Environmental Research) stemmed from his interest in the conservation of the EBB, a small marsupial omnivore that frequented his small farm on Chatsworth Rd on the outskirts of Hamilton in the 1960s. Lionel provided information and support that assisted John Seebeck to develop the EBB Recovery Program.

Lionel's capacity for keen observation and lateral thinking can be illustrated by one example. He noted that the bandicoots invariably tended to seek insects and arthropods in the soil beneath fence lines, in preference to areas within the paddocks or non-grazed areas. Why so? His explanation was that this soil had not been trampled by grazing animals and was, therefore, less compacted and easier to dig in. Moreover, being also grazed, cockchafers found it easier to lay eggs in the soil there than in the compacted areas of the open paddocks.

In 1968, HFNC offered to undertake a bandicoot survey using traps supplied by Gavin Cerini (DFWL). Margaret Corrick, Lionel Elmore and Murray Gunn formed a sub-committee to collect and collate information. By 1975 HFNC members were well-informed of the requirements of EBBs and offered to assist the City of Hamilton to conserve valuable bandicoot habitat along the Grange Burn. The following is an extract from HFNC Committee Meeting Minutes (28-02-1975).

The Bandicoots need a natural grassy habitat for protection against predators. A post-and-rail type fence (maximum gaps to be 18" wide) should be placed around the perimeter of the reserve with additional square or rectangular wire fences around planted clumps, with a mown path through the reserve for public access. The council would provide funds for shrubs and fencing materials. HFNC to invite the HTS to work alongside the club.

An information board should also be supplied communicating to the public the reason the area has been left untouched - in the hope of gaining public support. It should describe the habitat and the animals (including the swamp rat) using the reserve. It should point out that Hamilton is the only mainland area where Barred Bandicoots are known to be surviving. The board should state that the area is a Nature Reserve [and] that visitors are requested to keep to the mown path and that grazing animals are prohibited.

Rod Bird and John Cayley continued to work with HCC to ensure that bandicoot habitat was protected. In December 1975 HFNC members Rod Bird and Lionel Elmore sent reports of bandicoot surveys (60 and 20 sightings respectively) to John Seebeck (DFWL). Photos taken 'in the wild' (the irrigated area of the Hamilton Sewerage Treatment Plant) by Rod Bird in the 1980s are presented below.



Hamilton Grange Burn development for the Eastern Barred Bandicoot

HFNC members have been involved in an enormous amount of work associated with the preservation of the EBB. That work has included surveys of the bandicoot, public relations work, working on committees with Hamilton City Council and monitoring the population at the Hamilton Parklands. The EBB is critically endangered in Victoria. HFNC Minute Books record works associated with EBB habitat retention/restoration pre-1989, after which the EBB virtually disappeared from the 'wild':

- 21-10-1982 – HFNC working bee to create bandicoot shelters at the Hamilton Tip (Mr K Lakeman arranged the sleepers, SEC poles and material from dismantled bridges).
- 21-11-1982 – Working bee for tree planting at the Police Paddock.
- 31-07-1983 – HFNC working bee to shift the new bandicoot shelters to higher ground after flood waters had swamped previous positions.
- 16-08-1984 – HFNC working bee to plant Silver Tussock at the Hamilton Tip as habitat for the EBB. Tree Violets were planted in the Police Paddock. Keith Cumming and Kevin Lakeman developed plans for planting along the Grange Burn.
- 18-10-1984 – HFNC tree planting along the Grange: Woolly Tea-tree, Red Gums, Swamp Gums, Blackwoods.
- 20-06-1985 – Rae Dempster and others planted River Red Gums, Casuarinas and Tea-trees along the Burn between the Police Paddock and the Railway Bridge.

Hamilton Parklands and Eastern Barred Bandicoot

The Hamilton Community Parklands (Parklands) is part of the original 546 acre Hamilton Water Trust area, once the water gathering area for the town and a landing strip for Ansetts airplanes. Prior to 1975, portions were allocated to a sporting complex (Pedrina Park), golf course, motor-cycle area and pine plantations. The remaining areas were leased for grazing.

In 1975 representatives from Lands Department, other Departments and HFNC (Rod Bird & Peter Milne) examined ways in which the "unused" part of the reserve could be used for conservation, recreation and education as well as for water supply. Grazing leases in the grassland areas north of the Old Reservoir were cancelled in 1976 and cattle were finally removed from the Old Reservoir area in 1979. The Parklands committee acted as an advisory body to the Water Trust until 1980, when a publicly elected body was formed – the Hamilton Institute of Rural Learning (HIRL). Twelve acres were appropriated for the development of HIRL complex.

An Environment Committee was formed to recommend on developments for the greater Parklands area. That committee, including Rod Bird (Chairperson) and (later) Keith Cumming, Sue McInnes, John Kiely, Rae Dempster and Liz Fenton, then developed the plan for the erection of the Bandicoot Enclosure and management of the reserve within. HFNC planted 1150 trees in the Parkland in September 1984. The wildlife fence was constructed in 1988, after a tortuous process with CFA, City Council and Dundas Shire, to enclose 100 ha. A program for strip-burning within the northern grassland area was adopted, with the assistance of Rural Fire Brigades.

Dr Tim Clark (Chicago Zoological Society) had estimated, from reports by Seebeck in 1979, Moon in 1984, Brown in 1985 and Dufty in 1988, that the population had declined over the 10 years to 1989 from about 1,750 EBB to 300. That was the stimulus that saw investment in EBB captive breeding program in 1989 by WWF, DCFL, HCC and a private donor.

A 100-ha predator-proof enclosure was established in the Parklands, dedicated to the EBB Recovery Program that was initiated in 1989 and continues. Several members of HFNC, including Kay Aldridge and Max, Marie and Samantha Greiner, were involved in the early survey and monitoring work in the EBB Enclosure from 1992. Later, Janeen Samuel, Yvonne Ingeme and Reto Zollinger joined the team that was co-ordinated by DCNR

In a letter in 1990, Lionel also speculated on the cause of the decline in the fortunes of the barred bandicoot, at that time confined on the mainland almost entirely to the Hamilton area, its former distribution having shrunk alarmingly from Penhurst to Hamilton during the previous 20 years.

- Drainage of wetlands – decreasing the frontage of slowly receding water levels in summer, a time when crickets, grasshoppers and worms would have been present in the green strip.
- Phosphatic fertiliser and pesticides – farmers applied large amounts of fertiliser from the 1950s onwards, to be followed by plagues of army worm on oat crops and pasture grubs. DDT – the cure for pasture pests – was applied on the ground or by aerial spray in the 1960s, and Lindane was applied in super. ‘Silent Spring was the order of the day’ and bandicoot losses followed.
- Shelter in the countryside – more intensive agriculture, and exploitation of lake, swamp and stream reserves, resulted in the loss of Poa tussocks that had enabled the EBB to survive in the open landscape from Penshurst, Tabor, Warryure, Linlithgow and Hamilton.
- Predation by foxes – very significant after the decline of the rabbit with myxomatosis, so that by the mid-1970s bandicoots had retreated to the Grange Burn, the municipal tip, abattoir area and sewerage farm, although they also foraged in many town gardens. These areas provided a greater food supply, as a result of higher nutrient levels, soil moisture and essential shelter.
- Shelter in the townscape – as townfolk and the City Council became tidier, a good deal of bandicoot cover was to disappear and with it the bandicoot. Lionel constantly reminded us that the EBB is a lover of untidy places!
- Predation from cats – and probably the virulent effect of their disease of plasmototoxicosis.

We could add a further note: that the drier years from 1997 undoubtedly have contributed to the loss of the EBB from the wild. The EBB is a species adapted to wetter soils, generally lower in the landscape, and any project that seeks to maintain the species must take account of that. Apart from predator control, some form of irrigation and removal of herbage may have to be applied to a substantial area in order to provide the conditions essential for food supply.

Further information on this on-going project is provided in ‘The Eastern Barred Bandicoot and the Hamilton Community Parkland’ (*EBB Newsletter*, August 2008 and later editions). There is an on-going project at the Parkland and in other enclosures in Victoria. Numbers of EBB in those enclosures in 2011 are good but the species seems unable to now survive in the wild. A trial project is currently being set up on French Island, where foxes are not present.