

The beginnings of a Sanctuary at Narre Warren South

By Tony Tucceri

Have you ever wondered what happens in the outer suburbs of a large city of 3 million people like Melbourne? Some say not much but that would be very wrong. The outer suburbs, particularly in the population growth corridors, are full of activity and full of life; human, plant and animal. And they even have a threatened little fish.

About 55km south-east of the heart of Melbourne lies Narre Warren South. Until quite recently the area would have been mistaken for a soggy green wedge of paddock. Now it's the latest in a long line of brand new suburbs, where Melbourne meets Gippsland. This is the urban fringe, with new housing estates, new roads and new infrastructure being built to accommodate one of the fastest growing residential and commercial areas in the greater Melbourne region. Narre Warren was among a cluster of rural communities which served early travellers to the Gippsland region. Although the first settlers were mainly pastoralists, the district's heavy black soil was particularly suited to potatoes and grain and the state's oldest agricultural collective, the Port Phillip Farmers' Society was established in the region in 1848. Today, housing is (relatively) affordable, the local council (City of Casey) has a commitment to quality early childhood and family services, and so the area attracts young couples and families. There are plenty of local parks for children. But there's something else too, in this growing suburban outpost.

A large remnant population of Dwarf Galaxias, *Galaxiella pusilla*, exists in a table drain in Narre Warren. A recent survey found this drain to be the only water body within the Eummemmerring and neighbouring Dandenong Creek catchments known to still support this species. ANGFA members are familiar with the area, with several current members having conducted field surveys in this catchment for well over 40 years. Unfortunately, the native aquatic fauna of the region is under pressure, human pressure. Habitat is being re-shaped or lost, this species and others are in strife and urgent action is required to protect this threatened population over the short to medium term until a long term management program is enacted by State and Local government. That's where ANGFA have come into the picture. We're proud of our contribution. We can help in the short to medium term and are confident a long-term practical solution can be achieved.

At ANGFA Victoria, we've become very familiar with Dwarf Galaxias, *Galaxiella pusilla*, a small native fish that was once widespread throughout southern Victoria in slow flowing creeks, lagoons, swamps and seasonally ephemeral habitats. The species has rapidly declined in number and distribution and is consequently listed nationally as 'vulnerable' under the federal government's Environment Protection and Biodiversity Conservation Act 1999 (EPBC), and as a threatened species under the state government of Victoria Flora and Fauna Guarantee Act 1988 (FFG). The decline is caused in part by habitat destruction and perhaps to a far greater extent, via competition and predation by the noxious species, Eastern Gambusia *Gambusia holbrooki*.

For some years ANGFA members have been conducting surveys for Dwarf Galaxias in many catchments around Melbourne. Many sites have been surveyed within the Dandenong Creek and neighbouring Eummemmerring catchments and despite being a table drain, this last known site offers suitable habitat and certain habitat attributes (particularly heavy shading) which are scarce in surrounding waterways.

The Dwarf Galaxias population inhabiting the table drain at Narre Warren South was found to be most concentrated in the vicinity of Golf Links Road, just east of Narre Warren - Cranbourne Road. Clearing of 180 metres of fringing/overhanging native vegetation (Swamp Paperbark) was undertaken by the developer of an adjacent residential subdivision at this site, which resulted in submission of a referral to the federal government Department of Environment and Heritage (DEH) under the EPBC Act. The action of removing the vegetation and the intended replacement of the table drain with underground pipes was deemed not to be a controlled action, provided the Dwarf Galaxias population was translocated.

Chris Bloink, an aquatic ecologist from Biosis Research Pty Ltd, a private firm that provides consulting services in both natural and cultural heritage, was engaged to conduct the translocation and carry out monitoring of the translocated population for a period of twelve months. As the DEH determination referred only to the 180 metres from which the vegetation was cleared, the remaining 800 metres of the

table drain along Golf Links Road, which also contains large numbers of Dwarf Galaxias remains protected under the EPBC Act. Any action that may cause an impact to this site must be referred to DEH. It is unknown when this may occur, or what the DEH decision may be, however this upper 800 metres of the Golf Links Road table drain still offers suitable habitat to maintain a large population of Dwarf Galaxias and was consequently chosen by Biosis Research as the destination site for fish translocated from the lower 180 metre impacted section.

Upper and lower sections of the table drain were isolated from each other and by early May of this year the translocation was complete, with 851 Dwarf Galaxias translocated. As most of the remaining 800m length of the table drain was prone to drying out modifications were made in order to allow this entire length to maintain adequate water levels and therefore provide a larger area of habitat for Dwarf Galaxias. Water quality and depth of this length of the table drain is currently undertaken weekly, population monitoring is undertaken quarterly and water levels are artificially supplemented as required. These actions will cease in May 2006.

The work being conducted on behalf of the developer is unlikely to be sufficient to ensure the survival of this population beyond May 2006. The removal of native fringing vegetation, the action that triggered the need for an EPBC referral, is only one of a large number of factors that potentially threatens the survival of the Dwarf Galaxias population at Golf Links Road. Other threats include an increasing *G. holbrooki* population, insensitive council drain maintenance practices, siltation via road and development site runoff, illegal dumping of rubbish/contaminants, poaching, and various other impacts associated with the gradual change in the surrounding land use - from a rural to an urban environment.

Given the precarious situation, ANGFA Victoria, lead by ANGFA member Chris Bloink and myself, put its volunteer effort towards habitat improvement works within this 800m long 'sanctuary', that will assist in the survival of the remnant Dwarf Galaxias population. We sought and received support (non-financial) from interested stakeholders including the developer, the local council (City of Casey), Melbourne Water, and the Department of Sustainability and Environment.

Armed with this support and lots of volunteer encouragement, we embarked on a real and practical project to improve habitat quality and enhance breeding and survival prospects. ANGFA members have been volunteering ever since to keep this new Sanctuary, complete with its delightful native fish population, alive and well. We consider this a serious project. We think this is a good start and we have applied for a financial grant to assist with the purchase of raw materials needed in order to continue these works. We believe far more can and will be done.

What ANGFA will achieve in the long run is uncertain as the remaining native fish population is seriously under threat, however we have high aims for this project that include:-

- 1) Create awareness of the Dwarf Galaxias Sanctuary at Narre Warren South
 - Awareness amongst ANGFA members
 - When appropriate, help promote the plight of local native fish to the general public
- 2) Improve habitat conditions of the Golf Links Road table drain
 - Assist local council to remove large volumes of illegally dumped rubbish from the table drain and regularly inspect and remove newly dumped rubbish as required.
 - Install silt protection fencing at the excavated road run off input points.
 - After May 2006, when water is no longer artificially supplemented to the table drain, remove sand bag walls from sections suffering from low water levels, to allow *G. pusilla* contained within these sections to follow the receding waters downstream, rather than perish due to desiccation.
 - Fence or otherwise restrict access to the Golf Links Road table drain in its entirety, effectively creating a more formal thin strip of conservation reserve, reducing the ease of public access, and thereby reducing the threat posed by illegal dumping of rubbish and poaching.
 - Manually, sensitively and systematically remove the sediment/silt load that has built up in the table drain. The sediment has reduced the capacity of the drain to retain water and plays a big part in creating low dissolved oxygen conditions currently experienced.

- During summer and autumn, utilise active and passive fish sampling techniques to selectively remove and humanely euthanase noxious *Gambusia holbrooki*, whilst making every effort to minimise the impact to the habitat.
- 3) Minimise habitat features of the table drain that offer favourable conditions for proliferation of pest species Eastern Gambusia *Gambusia holbrooki*. This is one of ANGFA's main aims.
- Provide heavy artificial shading over open, unshaded areas of the table drain.
 - Remove noxious weed species, such as blackberries and plant Swamp Paperbark *Melaleuca ericifolia* on the banks of the unshaded areas of the table drain. This species will eventually provide the natural shading required.
- 4) Conduct monitoring:
- After May 2006, when the current Biosis Research monitoring program ceases, continue regular habitat/water quality monitoring of the table drain and 3 monthly quantitative population surveys.
 - Over periods of drought, monitor water levels in sections of the drain that typically still retain water well after most other sections have dried out.
 - If the water level/water quality becomes critical, inform Melbourne Water and DSE and assist in undertaking emergency translocations if required.
- 5) Connected water bodies trial habitat improvement:
- Continue habitat improvement works on the downstream sections of the table drain on Centre Rd as a trial, progressively moving in a downstream direction.
 - The major focus of these works will be to supply artificial shading and planting of Swamp Paperbark *Melaleuca ericifolia*, where required, to reduce conditions that are favourable for *Gambusia*.
 - Include the areas where habitat improvement works have been completed, into the regular monitoring program.
 - Providing monitoring indicates a degree of success, continue these trial works throughout the length of the table drain, potentially including the connected Narre Warren Creek and a small section of the connected Hallam Main Drain.

The basic short term aim is to safe guard the remaining *Galaxiella pusilla* and all native fish in the area. But ANGFA realises there is a long term aim, it will take time and effort and our wonderful ANGFA volunteers will be working hard to make this happen. Let's wish them good fortune and good luck.



Habitat at Narre Warren South (September 2005)
Photo T. Tucceri



Galaxiella pusilla (males)
Photos R. Kuitert