

2. Demography of the Thamarrurr region

The coastal lowlands to the south-west of Darwin facing the Joseph Bonaparte Gulf are rich in biodiversity based on a range of plant and animal ecosystems which include eroded plateaus, open woodlands, black soil plains, creeks, rivers, flood plains, fringing monsoon forests, coastal mangroves, beaches, and seas. The fact that these lands have high carrying capacity for subsistence living is demonstrated by the existence of six Indigenous languages from three language groups (Walsh 1990) and 20 clan estates within the relatively small area of the Thamarrurr region (approximately 105 km long by 75 km wide). Socially and economically, the area now circumscribed by the Thamarrurr Regional Council has been part of the complex of relatively dense Aboriginal settlement that has existed along the Northern Territory coast since time immemorial with systems of inter-tribal economic exchange connecting coastal peoples from the Darwin region through to the east Kimberley. Significantly, peoples of the Thamarrurr region connect the *wunan* exchange cycle from the south with the *merbok* system to the north (Akerman 1979; Stanner 1933b: 34).

Despite the cultural importance of the region in the Aboriginal world, from a non-Indigenous perspective the area between the Daly and Fitzmaurice rivers was one of the least known parts of the continent up to the mid 1930s (Stanner 1933b: 381). The numbers resident there were simply 'guesstimated' for pre-war censuses and then incorporated into the general estimate of full-blood Aboriginal population for the entire Daly River census district. At the time of first European settlement in the region following the establishment of the Catholic mission in 1935, first at Wentek Nganayi (Old Mission), and then at Port Keats (now Wadeye) in 1939, the Aboriginal population was distributed widely across the region according to custom (Pye 1973). Stanner, who accompanied the missionaries on their arrival at Wentek Nganayi, records that some of those with family and attachments in the region were located as far afield as the pastoral country south of the Fitzmaurice at Bradshaw and Auvergne stations and in the East Kimberley, and more generally around the Daly River farms (Miscellaneous field notebooks 1932–1977, Australian Institute of Aboriginal and Torres Strait Islander Studies [AIATSIS] Stanner Collection Series 4, Item 2).

Stanner's arrival with the missionaries produced the first actual population count. In 1935 he recorded 125 individuals in the vicinity of Wentek Nganayi, and by 1936 he already noted the process of others moving in to congregate around the fledgling mission (Miscellaneous field notebooks 1932–1977, AIATSIS Stanner Collection Series 4, Item 2). Regular annual counting of the population (at least of those in contact with the Port Keats mission) became a requirement in the post-war years as part of the reporting of civil administration, initially to the Native Affairs Branch and then (from 1953) to the Welfare Branch of the Northern Territory Administration. As a consequence, total population counts of Port Keats are available in the Annual Reports of the Northern Territory Administration for each year from 1950 to 1973 and these include the number of male and female adults and children. Subsequently, the official count of the population has been

sourced via the five-yearly ABS census. From 1976 to 1996, this provided a count of individuals present at Wadeye on census night, with those at outstations simply included as part of a much larger number representing the balance of the entire Daly SLA. For the 2001 census, however, outstations located in the Thamarrurr region were collectively identified for the first time as an Indigenous Location (IL).

Aside from these counts of the population, various estimates of the resident population have been produced from time to time using a variety of methods and definitions of what constitutes the resident population. For example, the ABS census attempts to count all individuals whose usual residence is at Wadeye IL and Wadeye outstations IL. In recognition of the fact that it fails to count some people, the ABS develops post-census estimates of the 'true' resident population by augmenting SLA-level usual residence counts according to an estimate of those missed (net undercount), as well as other demographic adjustments. This produces an Estimated Resident Population (ERP), which in effect becomes the official population of each SLA in Australia for the purposes of electoral representation and financial distributions. As noted in Table 1.1, the Thamarrurr region is nested within the Daly SLA, and so an ERP for Thamarrurr would have to be derived pro rata from the latter. While such adjustment is not routinely carried out by the ABS at sub-SLA level owing to reduced reliability, the ABS did prepare 2001 ERPs for the Indigenous Locations of Wadeye and Wadeye outstations in response to a request from the Northern Territory Department of Health and Community Services. Thus, for 2001, an 'official' ERP for the Thamarrurr region can be said to exist by combining these two.

However, other population estimates are also available. For example, in 1992 and 1999, and then again prior to the 2001 Census, the ABS conducted the CHINS from which it derived an estimate of usual resident numbers for all discrete Aboriginal communities in Australia, no matter how small.² As this included all Thamarrurr outstations a complete population estimate for the region can be derived. However, it should be noted that these CHINS data are not based on counts—they represent estimates derived from administrative sources as supplied by key informants, usually council officers. In the case of Thamarrurr, such data would have emanated from the Murin Association, and from the Kardu Numida Council.

In addition to these ABS data, various regional service providers construct population lists of clients drawn from their catchment areas. In Wadeye, for example, the clinic, the school, Centrelink, and the CDEP scheme all service the town population as well as many outlying settlements. Indeed, as a regional centre of some note with employment, housing, banking, retail facilities, and an air route, Wadeye caters for the diverse needs of many individuals throughout the south-west corner of the Territory's Top End, attracting population either on a short-term or long-term basis. Inevitably, such individuals are captured by client listings and these can be variously accessed confidentially to generate

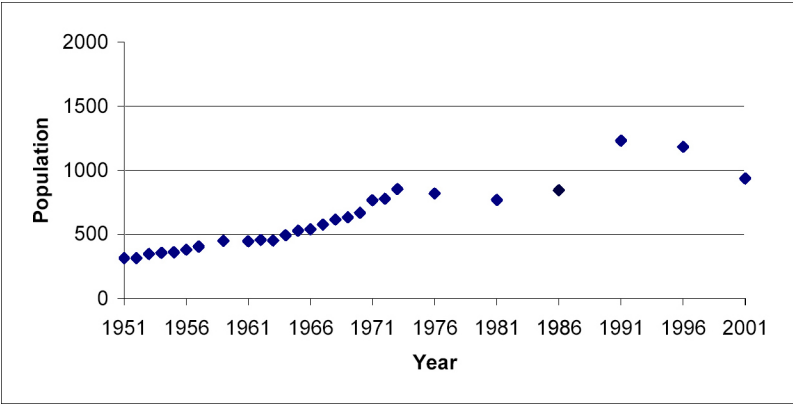
²Discrete communities are defined by the ABS as geographic locations that are bounded by physical or cadastral boundaries, and inhabited or intended to be inhabited predominantly by Indigenous people (more than 50 per cent), with housing and infrastructure that is either owned or managed on a community basis (ABS 2002b).

useful additional sources of demographic data, if applied judiciously. These are especially helpful in compiling an estimate of service population—usual residents plus short-term residents and visitors who place an added burden on regional services and infrastructure. The Northern Territory Local Government Grants Commission produces such an estimate based on a rolling three-year average of the ERP population and an estimate of visitors. Historically too, a number of attempts have been made by individuals and authorities to derive a population for Wadeye using a mix of head counting and administrative data. For example, in 1982, the clinic reported a population in the region of 1200 (Natoli 1982) while the Northern Territory Department of Community Development (NTDCD) recorded 1156 in 1985 (NTDCD Aboriginal Communities database). In 1994 Desmarchelier (2001: 41) estimated a population of 1950 using a combination of administrative data and head counting. With such a plethora of population counts and estimates based on a variety of methodologies, it is no wonder that some confusion arises as to the precise numbers resident in the Thamarrurr region and exactly which population best represents regional planning needs.

Population size

As noted, initial population numbers in the region remain unknown. However, by 1950 a total of 310 Aboriginal people were counted at Port Keats mission and Stanner claimed in 1952 that the rate of growth was such that the numbers would double within 20 years (*Sydney Morning Herald*, 8 December 1952: 6). According to Long's (1961) survey of the mission population in 1961, this prediction was well on track as he counted 447 residents and noted that others were located at East Arm leprosarium and generally in the 'bush'. By the time of the 1971 Census, the population at Port Keats outstripped Stanner's claim with 766 counted. According to Stanner's assessment (correspondence with Robert Layton, AIATSIS Stanner Collection, Series 4, Item 2) this steady rise in numbers was due to declining death rates and sustained high fertility during the mission years of the 1950s and 1960s, together with some in-migration. The effects of this on population numbers are clearly shown in Figure 2.1. While some post 1971 estimates point to a continuation of this trend of relatively high growth into the self-management era (Natoli (1982) and Desmarchelier (1994) indicating 1200 in 1982 and 1950 in 1994 respectively), the various ABS census counts from 1976 to 2001 suggest a quite different and more subdued trajectory. Between 1971 and 1976, the ABS count at Wadeye barely increased (from 766 to 819). It then fell to 768 in 1981, then rose slightly to 844 in 1986, rose substantially to 1236 in 1991, only to fall again to 1183 in 1996 and to 936 in 2001.

Figure 2.1. Counts and estimates of the Aboriginal population of Port Keats/Wadeye 1950–2001



Source: Northern Territory Administration Annual Reports 1951–1969; ABS Census of Population and Housing 1971–2001

These census counts suggest that since 1971 the town of Wadeye experienced a period of no growth, followed by a period of rapid growth, followed by population decline. However, it should be noted that these counts refer only to the settlement at Wadeye and do not include outstations. Up to the 2001 Census, any persons counted at Wadeye outstations were included in the count for the much larger balance of Daly SLA. In 2001, a total of 443 persons were counted within the newly created Wadeye outstations IL. Combined with Wadeye town, this produced a regional total for Thamarrurr of 1379. Unfortunately, as noted, this was the first census that a separate outstation count was recorded and so it is not known to what extent previous census counts for the region might also have been augmented by people present at outstations. Consequently, the regional population trend based on census numbers is difficult to interpret as the Wadeye counts vary widely, and even the number counted at outstations in 2001 (443) appears inexplicably excessive as indications from the 2001 CHINS and from the Murin Association and Thamarrurr Regional Housing Authority (which tend to refer to service populations) are that outstation numbers rarely exceed 150.

Notwithstanding these difficulties, the indication based on historic mission data is that census counts after 1976 fall short of what might have been expected unless one of two demographic events occurred—either a substantial reduction in natural increase, or a significant net out-migration. While evidence to inform these propositions is slim, both Natoli (1982) and Stanley (1985) report an average of 50 plus births per annum at Wadeye in the early 1980s which is suggestive of continued high natural increase in line with that observed during the 1960s. As for the notion that people were leaving the region in large numbers, this does not accord with the corporate recollection of service providers and local leadership. Indeed, one of the factors identified as leading to the collapse of the Kardu Numida Council in 1994 was its inability to respond to the needs of a growing town (Desmarchelier 2001: 41). The only data source that reports on the long-term

movement of individuals in and out of the region is the census, and for the most recent inter-census period (1996–2001) this indicates zero net migration for the Indigenous population.

Of course, much depends when comparing population counts and estimates from different sources on the various counting rules applied, as it is rare that these ever match exactly. In respect of the ABS census, it is claimed that each person in Australia is counted only once. At the 2001 Census, this produced a *de facto* population of 1492 persons for the IA covering Wadeye and outstations (Table 2.1). Of these, 1379 were recorded as Aboriginal persons and 89 as non-Aboriginal. In 24 cases, Aboriginal status was not recorded. These figures were very similar to the numbers recorded as *de jure* usual residents of the same area (Table 2.1).

The ABS uses these *de jure* population counts to produce its final census-based estimates of the population for each SLA in the country. Since Wadeye and its outstations do not comprise an SLA, no official post-census adjustment is available. However, as a consultancy service for the NT Department of Health and Community Services (NTDHCS), the ABS apportioned the 2001 Daly SLA ERP to CD level to derive an ‘ERP’ for the IA of Wadeye and outstations. This produced a figure of 1665, with the Aboriginal population component amounting to 1552 (Table 2.1).

**Table 2.1. Aboriginal and non-Aboriginal ABS census counts and post-censal estimates^a:
Thamarrurr region^b, 2001**

| | Aboriginal | Non-Aboriginal | Not stated | Total |
|---|------------|----------------|------------|-------|
| Census count (<i>de facto</i>) | 1379 | 89 | 24 | 1492 |
| Usual residence count (<i>de jure</i>) | 1396 | 94 | 23 | 1513 |
| Estimated usual residents (ERP) | 1552 | 113 | n/a | 1665 |

- a. The ERP cited in this table was derived by the ABS using a crude methodology and provided to the DHCS Health Zones project. The ABS does not directly prepare sub-SLA ERPs as the data required to support them is not available at this geographic level. The ABS apportions SLA level ERPs to CDs in order to facilitate the estimation of the approximate populations for non-standard regions. However, these do not have the same quality status as directly estimated state and territory level ERPs.
- b. Wadeye and outstations IA

Source: ABS Darwin, customised tables

For a number of reasons, doubts were raised by local service providers and community leaders in the Thamarrurr region regarding the utility of this ABS estimate for the purposes of establishing regional planning needs; it was considered to inadequately represent the true size, and to some extent the composition, of the resident population. In support of this belief, a number of alternate estimates of the population were presented, all pointing to the likelihood of higher numbers. While demographic information supplied by

Centrelink in respect of clients with an address in Wadeye did yield a population in line with the ABS estimate that was supplied to the DHCS, this was insufficient to overcome the weight of evidence feeding local perceptions. This evidence included:

- An estimate of Aboriginal usual residents compiled in 1994 based on a head count in combination with local administrative records derived a population of 1950 for Wadeye (Desmarchelier 2001).
- The Wadeye clinic had an estimate of its 'active client' Aboriginal population of 1916 in August 2003. This was the number of Aboriginal people who were recorded on the Wadeye Health Clinic system and had been attended to at the clinic sufficiently recently for both health workers and local staff to believe that the person currently resided in Wadeye and was not recorded on a health clinic system elsewhere.
- Between March and July of 2003, the Commonwealth Electoral Commission toured the region to update the Commonwealth electoral roll and recorded a total of 940 Aboriginal adults (18 years and over) who indicated a usual residence address within Thamarrurr. Using the ABS age structure for Thamarrurr, this would indicate an overall population somewhere in the region of 1900, not unlike that recorded by the clinic.
- The Health Insurance Commission indicated a total of 2089 Aboriginal clients with a residential address within the Thamarrurr region in August 2003.
- Comparison of the 1996 and 2001 ABS ERPs for the Daly SLA indicated an intercensus growth in the Aboriginal population of barely one per cent per annum—only 58 per cent of the Northern Territory Aboriginal average. These data also indicated a reduction in the population aged 0–4 of almost 10 per cent. By contrast, the perception of local leaders and service providers was of a regional population growing at least at the Territory level, if not higher, with a substantial increase in the number of infants due to high fertility.
- The ABS 2001 ERP for Thamarrurr also indicated that only 41 per cent of the population was less than 15 years of age. This was substantially less than the figure of 47 per cent reported for the Aboriginal population of the Territory as a whole, again contrary to local perceptions.
- The Northern Territory Grants Commission (NTGC) reported an estimated population for the region of 2215 in 2001.
- The 2001 CHINS reported the number of usual residents estimated in the Thamarrurr region as 2360.
- Finally, in August 2003, the Thamarrurr Housing Office had a population register of some 2300 individuals who had resided in the region at some time over the previous year.

Thus, the ERP of the ABS/NTDHCS was only one of several population estimates available to the Thamarrurr council for planning purposes, although it is the only one of those listed above that claims to be based on individuals who are uniquely recorded as usual residents of the Thamarrurr region and nowhere else, even though the final number is estimated. The term 'aims to' is used here as individuals are often not physically or individually 'counted' in the census since information regarding individuals is invariably

gleaned from a select key informant (or informants) at each household in respect of other household members. This practise of using key informants to glean information about community residents is also used in compiling some of these other estimates.

Obviously, because of the different methodologies applied, the ABS/NTDHCS ERP is not directly comparable to these other figures. If we take the clinic population figure as an example, aside from the different basis for counting (essentially a population list of recent clients assumed not to be on any other list), the clinic figure does not incorporate the whole regional population as it omits infrequent users of the clinic as well as some of those from outlying settlements in the east of the region (such as Namarluk, Wudapuli, and Merrepen), who are more likely to be serviced by Daly River clinic. It is also the case that some of these other estimates (NTGC, CHINS and the Thamarrurr Housing Office) refer more to a service population level, rather than an estimate of usually resident population. NTGC figures, for example, refer explicitly to an estimate of the populations 'serviced' by councils. To establish these, the Commission receives from councils an annual estimate of the populations that they service based on a variety of methods including head counts, housing records, and environmental health surveys. It then uses public hearings and council visits to test the veracity of the population figures supplied. This is a quite different methodology and conceptual base for estimation than that used to develop ABS ERPs.

In addition to these methodological differences, a further distinction between most of these figures and the ABS/NTDHCS ERP is, of course, the fact that the former refer mostly to 2003, whereas the ABS/NTDHCS figure is for 2001. Thus, to compare at all, even if this were conceptually meaningful, would require the 2001 ERP to be re-estimated for 2003. This is something that ABS methods do not provide for owing to a lack of data to inform sub-SLA inter-census estimates. However, in the absence of a reliable methodology, a crude approximation of this can be calculated using expected natural increase between 2001 and 2003 on the basis of recent levels in the Daly SLA apportioned to Thamarrurr. From this, it can be assumed that an ABS/NTDHCS Indigenous ERP for 2003, were it to be established, would have been around 1700.

Community census

In the realpolitik of community funding and representation, this difference between ABS counts, the ABS/NTDHCS ERP, and other indications of the regional population tends to feed concerns that 'official' ABS data fail to adequately establish the true usual resident population level, with due acknowledgment that this differs from a service population. Accordingly, the Thamarrurr Council expressed a desire to validate its usually resident population as an essential first step in the construction of a socio-economic profile for the region. In discussions with council members and local service providers, it was decided that the only approach suited to this purpose was to conduct a new count of the regional population employing local people as enumerators and advisors. This activity immediately developed as an exercise in community capacity building among the working groups established as part of the ICCP partnership agreement, especially those concerned with housing and construction, family and women, and youth.

By assembling a team of senior men and women via the Thamarrurr Council and the Wadeye Palngun Wurnangat (Wadeye Women's Association) with assistance enlisted via them from representatives of the various clan groups within Wadeye camps and outlying outstations the basic strategy was to conduct a count of individuals present (including absent usual residents) in the region, and to then cross-check this against the Thamarrurr Housing Office population list to identify and follow-up any discrepancies between the two. Interviewers were instructed to include all individuals who considered themselves to be usual residents of Thamarrurr using the same criteria as applied by the ABS (expected residence in Thamarrurr for more than half of the current year). Where individuals were not asked this question directly, the usual residence status of household members was gleaned from the main respondent or key informant. Typically, as with most survey work in remote Aboriginal communities, this information gathering was a communal activity, although unlike the census and other activities such as housing surveys, the information sought was kept to an absolute minimum, with the focus solely on establishing the name, age, and sex of all individuals considered to be usual residents according to the criteria set.

These dwelling counts took place during most of August 2003, although because of limited resources and the myriad of other activities that placed demands on the time of interviewers, direct visits were made to only 125 out of 151 dwellings in Wadeye. For the same reason visits were made to only two outstations (Fossil Head and Namarluk), with numbers present at the remainder gleaned from relatives in town, and then cross-checked from Housing Office data. Data for the remaining 26 Wadeye dwellings were drawn from Housing Office records and also validated by the survey team.

This initial exercise revealed a population of 1782 individuals for whom Thamarrurr was considered their usual place of residence. The vast majority of these were physically present, whilst some (fewer than 50) were temporarily absent in places such as Palumpa, Peppimenarti, Daly River, Timber Creek, Kununurra, Wyndham and Darwin. Analysis of this initial count by age, sex and location revealed an apparent lack of young children, young men and outstation residents.

Comparison of this initial population count with the Thamarrurr Housing Office population list produced a new list of individuals who appeared on the latter but not on the former. This new list of some 500 individuals was then interrogated by working groups from the Ngepan Patha Centre and the Thamarrurr Housing Office in consultation with representatives from family groups and other agencies, such as the school and the church. The aim was to apply the same residency criteria to these lists. In the process, many duplicates were found, especially among children under 16 years of age owing to their inclusion under both mother's and father's family name. These were deleted. Also found were numerous entries for individuals whose usual place of residence was outside of the Thamarrurr region, particularly in Palumpa, Peppimenarti and Daly River. These were also deleted. A few usual residents who had not been picked up in the dwelling count and who were not found on the new checklist were added, while many of those on the revised list were confirmed as current usual residents, although assigning them to particular dwellings often proved problematic owing to high intra-community mobility. Indeed,

one issue for community planning (especially of housing and associated infrastructure), is the difficulty of assigning many individuals to particular dwellings on a fixed basis since the numbers resident at particular dwellings can fluctuate substantially.

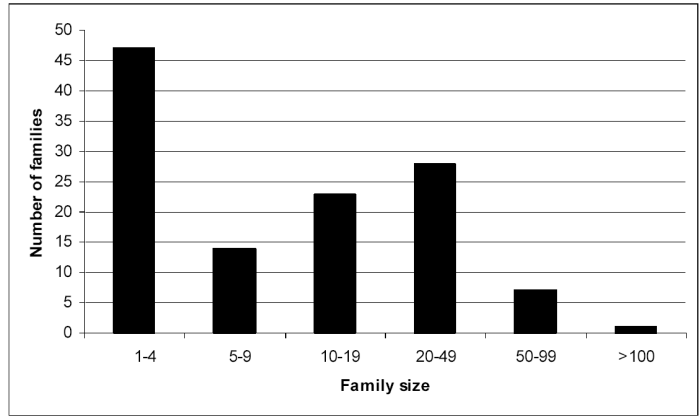
Methodologically, this use of population lists to adjudicate on the usual residence status of individuals for those dwellings that were not visited may be seen as diminishing the quality of the final count. However, in the context of high intra-community mobility it may also be seen as beneficial as it reduced the potential for omissions. Certainly, the integrity of community based population lists was established by the fact that the vast majority of those counted were also located on the Thamarrurr Housing Office list. These issues aside, the resulting Aboriginal population amounted to 2034, and this is the figure employed for the purposes of social profiling, unless otherwise stated. Of course, added to this are non-Aboriginal residents. No formal count of these was conducted and so the official estimate of 113 from Table 2.1 is used instead. This produces a total usual resident population for the region of 2147.

Family size

While nuclear family units exist, the functional basis of social organisation in the region is the extended family group and the patrilineal clan (Stanner 1936b: 188). Accordingly, one of the items gathered by the community census was 'family' name, which is patrilineal. From these data, it can be established that presently the Thamarrurr region population (or more precisely, 90% of the population) is organised socially into 60 family groups of 10 persons or more. This is somewhat less than the 78 family groups recorded by Ward (1983), and may suggest that some lines have recently dissipated. The remaining 10 per cent of the population is currently comprised of relatively small social units, made up of either local families whose patrilineal line is diminished, or of assorted individuals and immediate kin whose origins lie outside of the region including places such as Timber Creek, Kununurra, Daly River and Belyuen. These social categories do not necessarily equate with households or the families that occupy particular dwellings, indeed for the most part extended family groups are spread across a number of dwellings within Wadeye and at particular outstations. However, they do provide a starting point from which to classify the population according to locally meaningful social categories since combinations of family groups in the Thamarrurr region broadly cluster into one of 20 patrilineal clan groups (Ward 1983: 3).

Figure 2.2 shows the distribution of extended family groups according to broad size category. There are eight family groups that stand out as large in size with populations of over 50 persons. These include Dumoo, Parmbuck, Cumaiki, Bunduck, Jongmin, Karui, Mullumbuck and Narjic. Together, they include around 630 individuals. The single largest grouping in terms of collective population numbers (840 persons) are the 28 families of between 20 and 50 persons, although the average family size (17 persons) is found among the 23 families of between 10 and 20 persons. Below this, there are numerous small groupings, sometimes of individuals, with apparently no extended family in the region at least not according to the criteria used here.

Figure 2.2. Distribution of Thamarrurr family groups by size



Source: Thamarrurr community census

Mobility and service populations

A service population is literally what it implies—that population which creates a demand for services in a particular location. While this may seem self-evident a number of working definitions exist standard methods for measuring service populations are far from established. The closest to an official line on service populations is provided by the ABS as: ‘all persons who access services and facilities generally provided by a local government area. These may be permanent or temporary residents of the area from which the service is sought, or daytime visitors, overnight or short-term visitors to the area’ (ABS 1999). This recognises a need for a ‘variety of non-resident population definitions which, when combined with ERPs, will be comprehensive of users’ service population needs, while singularly will be mutually exclusive of the other component definitions’ (ABS 1996b). Clearly, the operational identification of service populations is complex, and the tendency has been to develop relatively simple estimates of visitor numbers to add to usual residents. In the present study, such numbers were derived from the administrative lists of service providers validated by local key informants. The difficulty arises, of course, from the short-term nature of much movement.

In many respects, the identification of an entity called the ‘Thamarrurr population’ is an entirely artificial construct that cuts across the reality of social and spatial interaction. In addition to those usually resident in the region, there are others (often related kin) from localities adjacent to and well beyond the Thamarrurr boundary who frequently visit and reside in the region while reciprocal visits are also often made. Aboriginal people of the Thamarrurr region have social links that extend over a large area as far north as Belyuen, Darwin and the Tiwi Islands, east to Palumpa, Peppimenarti and Daly River, and south to Timber Creek, Kununurra and Wyndham. Furthermore, considerable short-term circular population movement also occurs within the Thamarrurr region between Wadeye and surrounding outstations, as well as within the town between dwellings. While the bulk of the usual resident population resides continually in Wadeye,

daily interaction with outstations is common and the population resident at outlying settlements averages around 150. According to Thamarrurr Housing Office assessment, a seasonal shift occurs with outstation numbers peaking in the dry season (at around 200), and falling by as much as 85 per cent in the wet season when most people reside at Wadeye.

Figure 2.3 shows the distribution of localities within the region. As illustrated, most people live in the town of Wadeye but there are some 20 other localities (all outstations) where families reside either permanently or occasionally. Most of these have some housing and basic infrastructure, while some have none. As the map indicates, these outstations are located either at coastal sites or on slightly elevated ground above flood plains. For the most part, they are located adjacent to environments that are rich in fauna and flora and which provide the basis for customary subsistence-related activities. Aside from the relative lack of housing and basic services, a major factor that restricts more full-time use of these sites is the poor condition of regional roads and bush tracks.

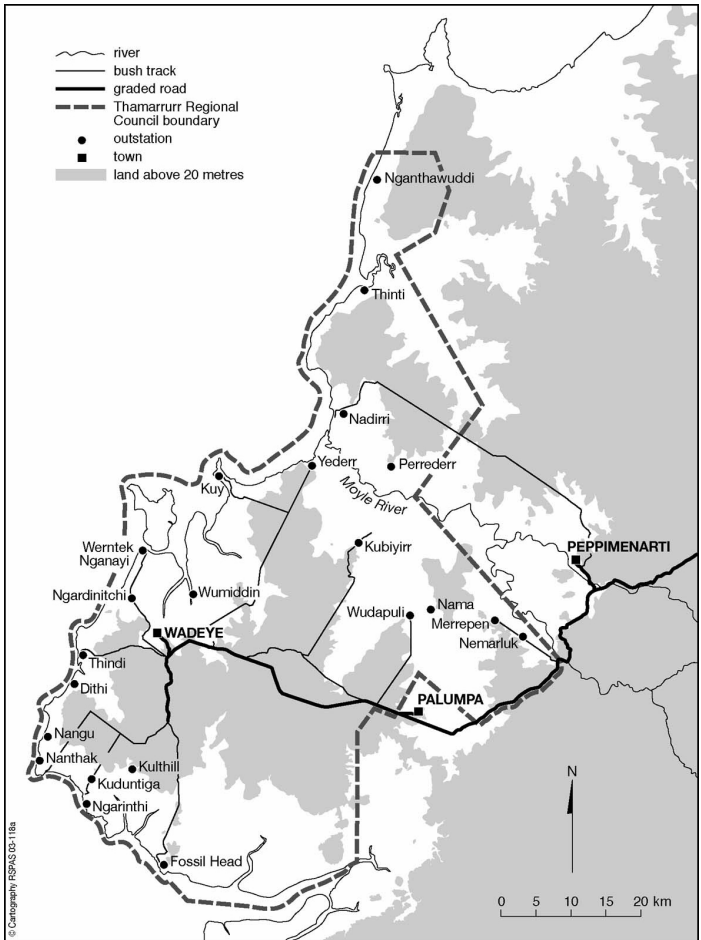
The addition to the overall resident population caused by the temporary residence of individuals and families in the region is estimated using Thamarrurr Housing Office records. These include individuals who were recorded as resident at some time in the Thamarrurr region between August 2002 and August 2003 but who were not considered to be usual residents according to the criteria applied in the community census even though they made use of Thamarrurr services (notably housing). This number totalled 226. If these are added to the 2034 usual residents recorded by the community census, then an overall Aboriginal service population for Thamarrurr in August 2003 of 2260 can be derived. Once again, if non-Aboriginal residents are added to this, then the overall service population of the region is estimated at 2373. This service population figure is the one that should form the basis of funding for major infrastructural requirements. These various population levels are summarised in Table 2.2.

Table 2.2. Summary of population estimates for Thamarrurr region, 2003

| | |
|-------------------------------|------|
| Aboriginal usual residents | 2034 |
| Total usual residents | 2147 |
| Aboriginal service population | 2260 |
| Total service population | 2373 |

Source: Community census and Thumarrurr Housing Authority

Figure 2.3. Settlement distribution in the Thamarrurr region, 2003



Source: Thamarrurr Regional Council

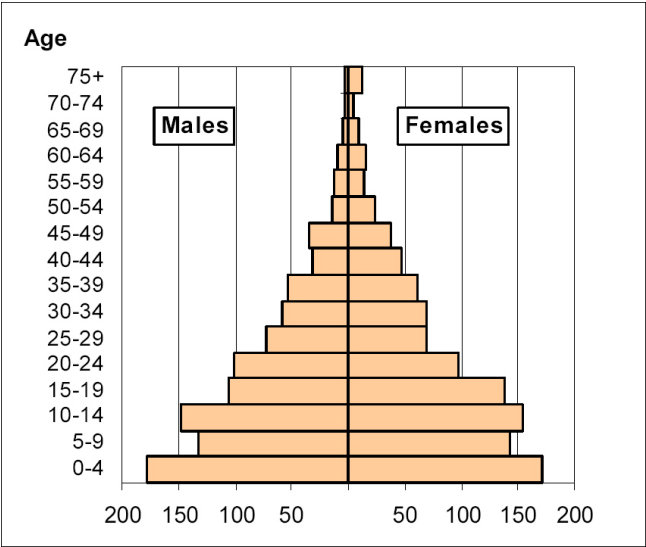
While temporary residence in the region intermittently adds to the pressure on selected local services (mostly housing), it can also be seen as generating extra demand and enhancing economies of scale for selected service provision. To this extent, temporary residents form an important element of the regional economy and their inclusion in estimates of need, especially for physical infrastructure, is vital.

Age composition

Aside from the overall numbers resident in Thamarrurr, it is the distribution and structure of the population by age and sex that has major implications for social and economic policy development, both in terms of assessing current needs of select target groups, and in determining the future composition of needs as revealed by population projection. The population used here to establish the size of relevant age groups is that obtained by the community census in 2003.

Figure 2.4 shows the shape of the Aboriginal population of Thamarrurr ERP by age and sex. Several features in this age pyramid are worthy of note. First, the broad base and relatively prominent numbers aged 10–14 are suggestive of current high fertility, resurgent after a recent decline, although it may also reflect some age misreporting and possibly undercounting of 5–9-year-olds. Second, the rapid taper with advancing age highlights continued high adult mortality, especially among males. Using the ABS experimental Aboriginal life table for the Northern Territory as a whole, life expectancies for males and females are seemingly stuck at around 56 and 63 years respectively, with much of the excess mortality occurring in adult ages (ABS 2002a). Third, uniformity in the decline of population with age suggests net inter-regional migration balance, although a relative absence of males in the 15–24 age group may well reflect out-migration. Finally, relatively large numbers of women in the childbearing ages, and even larger cohorts beneath them, indicate high potential for future growth in numbers, even if the actual fertility rate were to decline.

Figure 2.4. Resident Aboriginal population of Thamarrurr Region by age and sex, 2003



Source: Thamarrurr community census

By contrast, the non-Aboriginal age distribution is typical of a population that is subject to selective migration into the region for the purposes of employment. As much as 85 per cent of non-Aboriginal residents are aged between 15 and 64, with a concentration in the prime working-age group of 25–54 years. While this age pattern is stable over time, it is underpinned by relatively high population turnover with as much as 30 per cent of non-Aboriginal residents indicating that their usual place of residence one year prior to the 2001 Census was outside of the Thamarrurr region. This high level of change in personnel has potentially significant implications for continuity and consistency of approach in key areas of service delivery and administration within the region.

The actual numbers in each five-year age group are provided for the Aboriginal population in Table 2.3. Overall, almost half of the population (45.7%) is less than 15 years of age, with a slightly higher proportion among males (47.7%) compared to females (43.9%), as is to be expected given the observations above regarding differential migration and mortality. Overall the sex ratio of the population is 0.89 which is much lower than that recorded for the Aboriginal population of the Territory as a whole (0.99). Furthermore, the underlying age distribution of males and females is quite distinctive with females tending to predominate at ages above 29 years, as shown in Figure 2.5.

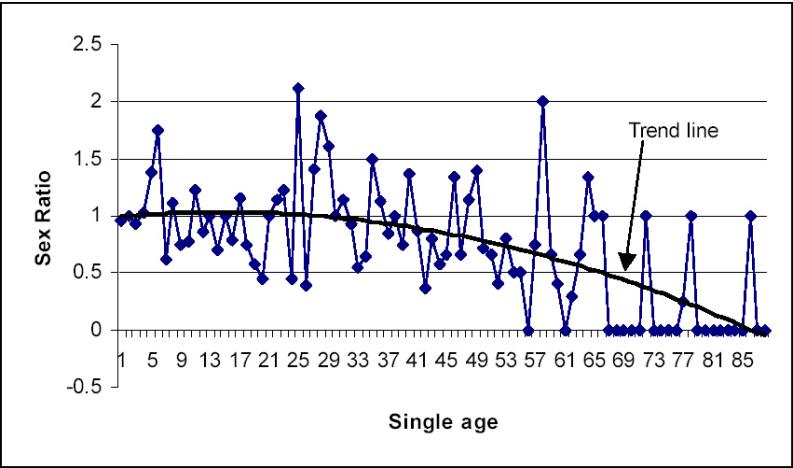
Table 2.3. Resident Aboriginal population of Thamarrurr by five-year age group and sex, 2003

| Age (years) | Males | | Females | | Total | |
|-------------|-------|-------|---------|-------|-------|-------|
| | No. | % | No. | % | No. | % |
| 0–4 | 178 | 18.5 | 172 | 16.0 | 350 | 17.2 |
| 5–9 | 133 | 13.8 | 144 | 13.4 | 277 | 13.6 |
| 10–14 | 148 | 15.4 | 155 | 14.5 | 303 | 14.9 |
| 15–19 | 106 | 11.0 | 138 | 12.9 | 244 | 12.0 |
| 20–24 | 101 | 10.5 | 97 | 9.0 | 198 | 9.7 |
| 25–29 | 73 | 7.6 | 70 | 6.5 | 143 | 7.0 |
| 30–34 | 58 | 6.0 | 69 | 6.4 | 127 | 6.2 |
| 35–39 | 53 | 5.5 | 61 | 5.7 | 114 | 5.6 |
| 40–44 | 31 | 3.2 | 47 | 4.4 | 78 | 3.8 |
| 45–49 | 34 | 3.5 | 38 | 3.5 | 72 | 3.5 |
| 50–54 | 14 | 1.5 | 24 | 2.2 | 38 | 1.9 |
| 55–59 | 12 | 1.2 | 14 | 1.3 | 26 | 1.3 |
| 60–64 | 10 | 1.0 | 16 | 1.5 | 26 | 1.3 |
| 65–69 | 5 | 0.5 | 10 | 0.9 | 15 | 0.7 |
| 70–74 | 3 | 0.3 | 5 | 0.5 | 8 | 0.4 |
| 75+ | 3 | 0.3 | 12 | 1.1 | 15 | 0.7 |
| Total | 962 | 100.0 | 1072 | 100.0 | 2034 | 100.0 |

Source: Thamarrurr community census

The significance of these age data for policy is best revealed by grouping them into age ranges that typically form the target of policy intervention as shown in Table 2.4. For example, compulsory school age in the Northern Territory ranges from six to 15 years inclusive, although here we have used ages 5–15 to incorporate the pre-school year. Accordingly, the infant years leading up to school age include those aged 0–4 inclusive. The transition years from school to work are indicated as 16–24 years, while the prime working age group is identified as ages 25–49. Typically in the Australian workforce, and in International Labour Organisation convention, working age extends to 64 years with those over 65 years representing the aged and pensionable. However, given the evidence for premature ageing in the Aboriginal population in the context of high levels of adult mortality and morbidity (Divarakan-Brown 1985; Earle & Earle 1999), this has been set here at the much earlier age of 50 years.

Figure 2.5. Single year sex ratio: resident Aboriginal population of Thamarrurr region, 2003



Source: Thamarrurr community census

The results indicate an infant population of some 350 accounting for almost 20 per cent of the regional total, while the school age population of almost 630 is approaching one-third of the regional population. Those in the transition years from school to work number almost 400, or 20 per cent of the population, while the working age group of 530 comprises one-quarter of the total, and is the second largest group after those of school age. By comparison, the relatively small size of the aged population is striking, even given the lower age at which this is set.

Table 2.4. Distribution of resident Aboriginal population by select age groups: Thamarrurr region, 2003

| Age (years) | No. | | | % | | |
|-------------|-------|---------|-------|-------|---------|-------|
| | Males | Females | Total | Males | Females | Total |
| 0-4 | 178 | 172 | 350 | 18.6 | 15.9 | 17.2 |
| 5-15 | 299 | 327 | 626 | 31.3 | 30.4 | 30.8 |
| 16-24 | 182 | 214 | 396 | 19.1 | 19.8 | 19.5 |
| 25-49 | 249 | 285 | 534 | 26.1 | 26.4 | 26.2 |
| 50+ | 47 | 81 | 128 | 4.9 | 7.5 | 6.3 |
| Total | 955 | 1079 | 2034 | 100.0 | 100.0 | 100.0 |

Source: Thamarrurr community census


Age grades

According to Falkenberg (1962: 176), in Murrin-Patha society of the 1950s, and for all other tribal groups at that time between the Fitzmaurice and Daly Rivers, kinship terms were deployed to express the relative age difference between ego and other individuals, although this was not by reference to actual age but to special age-grade terms. These

terms and their cultural significance remain intact. Thus, age grades have important cultural meaning as they express social status and normally indicate whether a person is married or unmarried, initiated or uninitiated, or has a particular degree of prestige and so on (Falkenberg 1962: 184; Stanner 1936a: 311). In such a schema, purely social, ritualised factors have great importance in determining the status of males in particular (cf. Warner 1937: 125–37 discussing status in north-east Arnhem Land societies).

The relevant age-grades in Murrin-Patha society in the 1950s as described by Falkenberg are found in Table 2.5. While the broad progression and underlying social significance remain the same, some of the terms in current usage differ and further work is required to establish these more precisely. For example, *wakul* rather than *konunganga* is now typically used to refer to young children.

Table 2.5. Murrin-Patha age grades

| Increasing age | Males | Females |
|---|-------------------|------------|
|  | Konunganga | Konunganga |
| | Mamai | Madinboi |
| | Kigai | Nalaru |
| | Kadu | Palnun |
| | Kake | Kake |
| | Nalandar | Kunu'gunu |
| | Pule ^a | Mutjinga |

a. An additional term (introduced from Western Australia) is used today to indicate a higher ceremonial status beyond Pule. It is often used by senior men but public reference to its name is restricted.

Source: Adapted from Falkenberg (1962: 177)

Returning to Falkenberg’s (1962) account, the youngest of the age grades identified (Konunganga) includes all children irrespective of sex up to around the age of about four to six years among boys at which time they are considered Mamai until puberty (Falkenberg 1962: 179–80). Girls, on the other hand, are considered Konunganga through to puberty (Madinboi). In each case, this represents a period of considerable autonomy. Subsequent grades from Mamai through to Kake for men, and Madinboi to Kake for women represent various incremental stages to full adult rights and responsibilities involving several ceremonial rituals for men and marriage and childbearing for women. These broad categories were also recognised by Stanner in 1958 who referred to them as ‘age divisions’ (AIATSIS Stanner Collection, Field Notes 1932–1981, Series 5, Item 23). In fact he goes much further than Falkenberg in identifying nine stages of childhood (Konunganga) for boys based on physical abilities such as crawling, walking, and running, and then five stages of Mamai with two important ritualised post-Mamai stages (Djauan and Tjambilj) leading into Kigai. Thereafter, three stages precede Kake involving marriage and fatherhood.

Thus, alongside, or woven into contemporary western age categories of infants, pre-schoolers, school age, youth, working age, middle age, old age, and retirement, are

uniquely Aboriginal life stages that carry with them different obligations, expectations, behaviours, and statuses. These stages are developmental, ritual and gender-based and often do not mesh neatly with western age categories. For example, the age range from around 10–16 in which western education expects full attendance at school to progress from primary through the years of secondary schooling are also the years when boys progress in stages to manhood with potentially quite different priorities and commitments in mind. Similarly, although working age is conventionally seen in western economic terms as commencing after compulsory school age with the ultimate aim of establishing an independent means to existence, many young Aboriginal men at this age, and for many years beyond, may be viewed as quite junior and lacking in authority depending on their age grade progression, and many young women may already have assumed marriage and motherhood.

While the significance for policy of any mismatch here between the aims of government economic and social policy and the ritualised place of individuals within local society remains to be established, there seems little doubt that the system of age grading was disrupted by the mission practice of establishing dormitories for school age children (Falkenberg & Falkenberg 1981: 34). In recent times the more compulsory nature of schooling and associated restructuring of the regional economy in pursuit of paid employment with their greater emphasis on western knowledge systems may also have unsettled inter-generational relations by introducing positions of authority and status outside of those defined and ritualised by custom. Not surprisingly, then, one of the underlying governance issues expressed by Thamarrurr leaders in seeking to enhance well-being in the region is to ensure that the customary order remains robust (Ivory 2003: 67-70).

Population projections

To date, planning processes in Aboriginal communities have all too often made use of dated demographic information. This creates a sense of uncertainty in assessing the adequacy of policy to address shortfalls in social and economic infrastructure. Such policy development is typically reactive to needs when revealed (for example, in terms of *post facto* responses to housing shortages), as opposed to being proactive by anticipating and planning for expected requirements. However, being proactive requires a measure of future requirements for government works and services, and this is something that is only rarely achieved for Aboriginal communities. This is not the case for mainstream communities throughout Australia where the approach to settlement planning is much more prospective (Bell 1992). For these purposes a standard cohort-component methodology is generally applied, and this practice is adopted here to project the Aboriginal population of Thamarrurr 20 years hence, roughly a generation from now.

Projection assumptions

The cohort-component method carries forward the 2003 population to 2023 by successive five-year periods. The projection is based simply on ageing the population by five-year

blocs, subjecting each group to age- and sex-specific mortality, fertility and net migration regimes as follows:

- Survival rates from the Aboriginal life tables for the Northern Territory (ABS 2002b) are applied and held constant for the projection period. This latter assumption is consistent with evidence that life expectancy generally for Aboriginal people in recent times has shown no sign of improvement (Kinfu & Taylor 2002).
- Age specific fertility rates based on registered births as provided by the ABS are not available for Thamarrurr, only for the Daly SLA. While some attempt can be made to distribute these pro rata, this is less than satisfactory. However, one by-product of the Catholic church's continued presence in Wadeye is their interest in maintaining a register of births. In 2001, this reported a total of 76 births to locally resident Aboriginal women. Using the age distribution of mothers for the Daly SLA as a guide, these 76 births were distributed by age of mother and used to calculate Age Specific Fertility Rates (ASFRs). This produced a Total Fertility Rate (TFR) of 4.4, which is very high and substantially higher than the Aboriginal TFR of 2.9 reported by the ABS for the Northern Territory as a whole (ABS 2002b), although it is in line with other relatively high rates reported from similar remote regions of northern Australia (Taylor 2003; Taylor & Bell 2002). It is also interesting to note that even higher fertility (TFR of 9.0) was estimated for Aboriginal women of the Daly River region at the turn of the century suggesting a high fertility norm for the region at the time of European contact (Gray 1983).
- In the absence of an operational model of migration, and in light of the lack of net inter-regional movement reported in the 2001 census, net migration is held at zero for all ages.
- No allowance is made for population change via shifts in Aboriginal identification.

Projection results

The actual projection is conducted separately for males and females in five-year blocs from 2003 to 2023. Projected births for the 2003–2008 period are added to the existing 2003 population and each cohort is then subjected to respective survival rates to arrive at an estimate of the population in each age group in 2008. This process is continued through to 2023.

As for projections of the non-Aboriginal population, these are more problematic since they are driven by economic, rather than demographic, factors. Essentially, non-Aboriginal people reside in the region for the purpose of employment. Accordingly, their numbers will be dictated by the extent to which employment opportunities expand and non-Aboriginal people successfully compete for them. To date, of course, such competition has tended to favour non-Aboriginal personnel and, notwithstanding a range of initiatives that is likely to emerge from the COAG trial to enhance Aboriginal employment outcomes, this structural situation seems unlikely to drastically alter over the projection period, certainly in respect of the more highly skilled occupations. Thus, non-Aboriginal population growth is estimated separately and according to a simple continuation of their current ratio relative to the regional Aboriginal population (0.05). Also, a key demographic

feature of this population that is assumed not to change over time is the focus on working age groups.

Table 2.6. Projection of the Aboriginal population of the Thamarrurr Region by five-year age group, 2003–2023

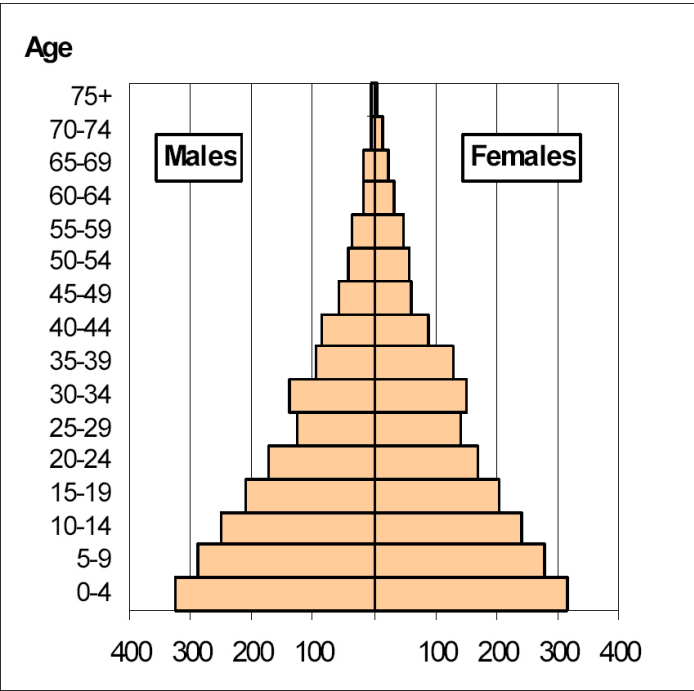
| Age (years) | 2003 | Projection to 2023 | Net change | % change |
|-------------|------|--------------------|------------|----------|
| 0–4 | 350 | 642 | 292 | 83.3 |
| 5–9 | 277 | 567 | 290 | 104.7 |
| 10–14 | 303 | 491 | 188 | 61.9 |
| 15–19 | 244 | 412 | 168 | 68.7 |
| 20–24 | 198 | 342 | 144 | 72.9 |
| 25–29 | 143 | 268 | 125 | 87.3 |
| 30–34 | 127 | 288 | 161 | 126.9 |
| 35–39 | 114 | 224 | 110 | 96.8 |
| 40–44 | 78 | 175 | 97 | 124.7 |
| 45–49 | 72 | 120 | 48 | 66.1 |
| 50–54 | 38 | 100 | 62 | 164.3 |
| 55–59 | 26 | 84 | 58 | 223.8 |
| 60–64 | 26 | 52 | 26 | 100.2 |
| 65–69 | 15 | 41 | 26 | 175.5 |
| 70–74 | 8 | 18 | 10 | 123.2 |
| 75+ | 15 | 9 | -6 | -41.3 |
| Total | 2034 | 3833 | 1799 | 88.5 |

Source: Author's own calculations

Aboriginal population totals projected to 2023 for the Thamarrurr region are shown in Table 2.6 and Figure 2.6 by five-year age groups, together with numeric and percentage change from the 2003 population. Overall, by 2023, the Aboriginal population is projected to increase by 88 per cent (or 4% p.a.) to reach a population of 3833, an increase of 1800 persons. If we add to this a ratio-based estimate of the future non-Aboriginal population of 212, this produces a total usual resident population projection of 4045 by 2023. Thus, within a generation, Wadeye and its associated outstations will have a population greater in size than present day Nhulunbuy, a mining town in north-east Arnhem Land. As noted above, for core funding purposes, it is more appropriate to employ a service population estimate. This is more difficult to project, but if an assumption is made that the service population will grow at the same rate as the usual resident population then we can estimate an overall service population for the region in 2023 of 4470. Clearly, unlike the many declining country regions in the rural hinterlands of Queensland, New South Wales, Victoria and South Australia, the Thamarrurr region is rapidly expanding in population size. Unless a major upgrading occurs, this trajectory means that Wadeye (along with many predominantly Aboriginal towns across the Top End) will be increasingly anomalous in the Australian settlement hierarchy for being a vibrant and growing

medium-sized country town yet with almost none of the basic infrastructure and services normally associated with such places.

Figure 2.6. Projected resident Aboriginal population of Thamarrurr by age and sex, 2023



Source: Author's own calculations

From a comparison with Figure 2.4, it can be seen that much of this growth will occur in the working age groups, while Table 2.6 indicates that the population aged between 15 and 49 years will increase by some 1338 over the next 20 years. Also evident is the fact that considerable population momentum remains for further growth beyond the 20-year projection period shown here. While it is true that some ageing of the population pyramid is evident, the chief characteristic in 2023 remains the preponderance of children resulting in a broad base in the age profile. Thus, the only factors that might undermine sustained population growth for probably the next two generations are the prospect of an increase in mortality due to a rise in the incidence of lifestyle diseases (see Chapter 7), a substantial decline in fertility (and, of course, associated major change in social behaviour), or population loss due to permanent migration out of Thamarrurr. At the time of writing, the first of these scenarios seemed possible, while the last two seemed unlikely.

As noted above, social policy and customary age-grading are concerned more with specific age groups rather than the age structure of the whole population, and so Table 2.7 sets out the future age structure of the Thamarrurr regional population according to select social policy target age groups.

Table 2.7. Distribution of resident Aboriginal population by select age groups: Thamarrurr region, 2003 and 2023

| Age (years) | 2003 | 2023 | Net change | % change^a |
|--------------------|-------------|-------------|-------------------|-----------------------------|
| 0-4 | 350 | 642 | 292 | 83.4 (4.2) |
| 5-15 | 626 | 1140 | 514 | 82.1 (4.1) |
| 16-24 | 396 | 672 | 276 | 69.7 (3.5) |
| 25-49 | 530 | 1075 | 545 | 102.8 (5.1) |
| 50+ | 132 | 304 | 172 | 130.3 (6.5) |
| Total | 2034 | 3833 | 1799 | 88.5 (4.4) |

a. Annual percentage change in parentheses

Source: Author's own calculations

On current projections the greatest numeric increase will be in the population of prime working age between 25 and 49 years, while the highest proportional increase is set to occur among the aged, over 50 years. Both of these broad age groups will more than double in size within a generation from now as the overall age structure of the current Thamarrurr population advances. At the same time, substantial growth will also occur at younger ages, especially among the school age population which corresponds also to the ages at which initiation of young men is a primary concern of Thamarrurr. The slowest rate of growth, however, is expected among those in the transition years between school and work, although much depends here on net migration trends and whether future school leavers will remain in the region or seek opportunities and lifestyles elsewhere.

