Social Indicators and Data Governance to Support Local
Decision Making in the Groote Archipelago

A Report to the

Anindilyakwa
Land Council

prepared under the auspices of

**First Nations Portfolio
Australian National University**

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ACRONYMS

ABA	Aboriginals Benefit Account
ABS	Australian Bureau of Statistics
ACARA	Australian Curriculum, Assessment and Reporting Authority
ADU	Anindilyakwa Data Unit
AEDC	Australian Early Development Census
AHAC	Anindilyakwa Housing Aboriginal Corporation
AIHW	Australian Institute of Health and Welfare
ALC	Anindilyakwa Land Council
ALRC	Australian Law Reform Commission
ANU	Australian National University
ANZSOC	Australian and New Zealand Standard Offence Classification
ASFR	Age-specific Fertility Rates
ATSIC	Aboriginal and Torres Strait Islander Commission
AvEDI	Australian version of the Canadian Early Development Instrument
CCF	Completed cohort fertility
CCO	Community Correction Order
CDEP	Community Development Employment Projects (scheme)
CDP	Community Development Program
CHINS	Community Housing and Infrastructure Needs Survey
CMS	Church Missionary Society
COAG	Council of Australian Governments
CPI	Consumer Price Index
CSP	Community Support Program
DES	Disability Employment Services
DMS	Data Management Plan (ALC)
DSS	Department of Social Services
ERP	Estimated resident population
ESS	Environmental Systems Solutions (platform)
FaHCSIA	Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs
FNP	First Nations Portfolio
FTT	Failure to Thrive

GEBIAMS	Groote Eylandt and Bickerton Island Alcohol Management System
GEBIPCAC	Groote Eylandt and Bickerton Island Primary College Aboriginal Corporation
GEBIE	Groote Eylandt & Bickerton Island Eylandt Enterprises
GEMCO	Groote Eylandt Mining Company
IDG	Indigenous Data Governance
IDS	Indigenous Data Sovereignty
IOMS	Integrated Offender Management System
JSA	Job Services Australia
LDMA	Local Decision Making Agreement
MADIP	Multi-Agency Data Integration Project
MJD	Machado Joseph Disease
MJDF	Machado Joseph Disease Foundation
MOU	Memorandum of Understanding
NGO	Non-government organisation
NIAA	National Indigenous Australians Agency
NILF	not in the labour force
NPRH	National Partnership Agreement on Remote Indigenous Housing
OAIS	Open Archival Information System Reference Model
ORIC	Office of the Registrar of Aboriginal Corporations
PCD	preventable chronic disease
PROMIS	Police Force Real-time On-line Management Information System (NT)
RCH	Remote Community Housing
RJCP	Remote Jobs and Communities Program
RMSL	Rehabilitation, Mine Services and Legacy (Team, GEMCO)
RPA	Regional Partnership Agreement
RSAS	Remote Schools Attendance Strategy
RTO	Registered Training Organisation
SIHIP	Strategic Indigenous Housing and Infrastructure Program
TFR	Total Fertility Rate
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
VET	Vocational Education and Training
YORET	Youth Outreach and Re-engagement Team (NT Families)

Acknowledgements

Foreword

I am a Warnumamalya man from the Groote Archipelago and Chairman of the Anindilyakwa Land Council (ALC).

My People have lived on the Groote Archipelago for thousands of years since the sea rose and gave us our land. We are Saltwater People. For us, our country is not just the Land – but also the Sea as far as the eye can see. That is our country. As my father used to say – 'The Sea is our Supermarket'. We traded from that Sea country with our neighbours from the North. We did that for a thousand years. We now know that our seafood was exported as far as China.

We lived life on our terms, managed our own lives, spoke our language, and practiced our culture until Balanda (white man) first arrived with the Church Missionary Society in 1921, and then again with the GEMCO mining operation in the 1960s.

Since that time, our health declined, our culture was challenged, our children failed to be educated or were locked up, and decisions were made by outsiders for their own benefit.

In 2018, I signed the historic Groote Archipelago Local Decision-Making Agreement with former Northern Territory Chief Minister, Hon Michael Gunner, a pivotal recognition that Anindilyakwa people were best placed to make decisions which affected their own lives. Anindilyakwa-led organisations now deliver substantial services across housing, education, economic development, health, and law and justice on the Groote Archipelago.

From that position, the ALC Board decided to embark on this pioneering Anindilyakwa population and data project in partnership with the First Nations Portfolio of the Australian National University.

While not always comfortable reading, this report provides both a clear reflection of what has been working to help close the gap, as well as highlighting some critical areas for improvement.

In immediate response to the report, the ALC has progressed the establishment of a locally managed data unit to measure key demographic, social and economic outcomes on an ongoing basis.

The data unit will provide employment opportunities for local Anindilyakwa people, equip Traditional Owners with a powerful tool to inform best practice, evidence-based local decision making, and reclaim our right as First Nations people to data sovereignty.

It will take a combined effort to move the dial forward, and this report and our newly established data unit provide the perfect impetus for broader discussions about working together to address the full gamut of issues affecting all Anindilyakwa people.

I call on the Commonwealth and Northern Territory Governments, local Aboriginal Corporations, and other important stakeholders, to join forces with us and share in the collective responsibility of creating a stronger, healthier, and more prosperous future for our children and grandchildren.

Tony Wurramarrba AO
November 2022

1. Background – Anindilyakwa Regional Planning

In November 2021, the Anindilyakwa Land Council (ALC) commissioned the development of a community profile of the Indigenous population of the Groote Archipelago. This was done under the terms of a Memorandum of Understanding (MOU) established in the same year between the ALC and the First Nations Portfolio (FNP) at the Australian National University (ANU). The purpose of the MOU was to establish a framework for collaboration between these parties to develop and implement projects that would create new knowledge and have practical benefits for the ALC and Anindilyakwa people. Several overlapping approaches to regional autonomy and strategic planning in the Groote Archipelago that evolved over preceding years provided essential background to this arrangement.

First of all, in 2008, the Groote Eylandt Regional Partnership Agreement (RPA) was signed between the ALC, the Australian Government and the Northern Territory Government (NTG). The RPA aimed to achieve sustainable and measurable improvements for people across the Archipelago in areas of housing, health, education, employment, business development, community safety and governance.

To support the implementation of RPA initiatives, and to establish a baseline for ongoing measurement of outcomes, the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) commissioned an independent consultant to prepare a community profile of Angurugu, Umbakumba and Milyakburra in 2008. This involved the compilation of qualitative and quantitative indicators across a range of physical, governance, service delivery, human health and capacity measures structured according to the Productivity Commission's *Overcoming*

Indigenous Disadvantage framework. A report was finalised and submitted in 2009 (Australian Government 2009). The result was an avowedly cross-sectional non-population-based compendium of social and economic indicators for the three main communities drawn from administrative sources (as available), along with subjective assessments regarding the presence and functionality (or otherwise) of human services and infrastructure. An addendum to this report provided a demographic profile of the Groote Archipelago resident Indigenous population (Morphy 2010a).

Then, in 2012, the ALC developed its own 15 Year Strategic Plan for the period 2012–2027 (ALC 2012). The purpose was to ensure that Traditional Owners were positioned to make informed decisions regarding their future options for a post-mining regional economy. Part of this envisaged the transition of several government-held responsibilities to an Anindilyakwa Regional Authority governed by a Board made up from all 14 Traditional Owner clans.

Substantive movement in this direction was subsequently advanced in 2018 by the signing of the Groote Archipelago Local Decision Making Agreement (LDMA) between the ALC and the NTG. This is a 10-year plan that seeks to return local decision-making to Anindilyakwa people by empowering them to determine service delivery models that work best for their community and region. Reflecting the ALC's priorities, the service delivery areas identified for local control include housing, education, health, law, justice & rehabilitation, local government and economic development (ALC and NTG 2018). As part of the architecture to support local decision-making in these areas, the ALC co-designed and ratified an MOU with the ANU as mentioned above.

The project

Despite these substantial policy and administrative developments, it was realised that there had been no systematic and comprehensive review of social and economic changes in the region over the period of these various initiatives. Accordingly, the first project requested under the MOU arrangement was an update of the original 2008 baseline community profile. This was also a recommendation following consultations regarding the Anindilyakwa vision and principles for mine closure (Social Ventures Australia n.d.). To facilitate this, an agreement for research services was negotiated between the ALC and the ANU to deliver on the following Terms of Reference:

- Complete a comprehensive community profile that updates relevant data and information about the demographic, social and economic indicators of Anindilyakwa people that were contained in the 2008 baseline community profile and the 2010 Population Study.

- Ensure that the community profile is aligned with the LDMA between the ALC and the NTG and supports data requirements needed to progress each of the priority service areas set out in Schedule 2 of that Agreement.

- Support the ALC to establish its own data unit that will employ Anindilyakwa people to collect and analyse data on an ongoing basis and that will provide its own decision makers with data and information to support evidence-based decision making.

Discussions between the ALC and FNP regarding the nature of this 'update' identified a preference for determining the trajectory of change in social and economic outcomes over the 14-year period since the original baseline study. Rather than a mere cross-sectional profile, the desire was for a more dynamic analysis including some sense of likely future trends. Equally, a focus on population-based measures was regarded as more useful for informing planning decisions rather than a simple compilation of discrete indicators. A further initiative to arise was a broadening of the project to embrace the notion of Indigenous Data Sovereignty (IDS). This was viewed as a means of securing Anindilyakwa ownership and control over data that are about them and to streamline ongoing access to relevant government-held information to facilitate real-time, evidence-based decision making. To this end, the ALC Strategic Plan 2012–2027 had already raised the idea of a Community Engagement/Consultation Project to enable Anindilyakwa people to become active participants and directors of ongoing data collection and use (ALC 2012: 94–95).

Attached to the Groote Archipelago LDMA are a series of negotiated and agreed schedules outlining implementation plans for each of the priority service delivery areas. Each of these plans outline in detail the outcomes sought and strategies to be adopted to achieve the goals identified for each priority area. Implied in all of these is a requirement for particular statistical data to assist in framing the tasks involved, to quantify the scale and composition of needs ahead, and to provide baseline measures of current circumstances in order to determine impacts of implementation down the track. As such, these schedules provide a guide and structure for the content of the community profile and the major sections of the report are organised with this in mind.

Data governance

The idea of 'data sovereignty' is a recent product of the digital age and cloud computing. Against a background of unimpeded movement of information across international borders, it

advances the notion that data are subject to the laws and governance structures within the nation where they are collected. It is not an established legal concept but simply shorthand for the retention of authority and control over information assets (Irion 2012: 50). Taking their cue from the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), First Nations peoples around the world have begun to assert similar authority and control as part of their rights to self-determination (Kukutai and Taylor 2016).

Crucially, the means to achieving IDS is through Indigenous Data Governance (IDG) but what remains to be established, especially in Australia, is the actual practice of IDG – what does it look like on the ground, how feasible is it, how is it best delivered, and what are its practical challenges and benefits? At the time of establishing this project such questions had only begun to be considered in Australian policy discourse and no example yet existed of a holistic and practical approach to implementation.

The most significant developments at the time were the adoption of Priority Reform 4 on shared access to data and information at the regional level as part of the new *National Agreement on Closing the Gap*. There were also discussions at the Commonwealth level that led to the eventual passing of the Data Availability and Transparency Act 2022 regarding the sharing of public sector data. Indeed, as the project was underway, the ALC was approached by the Office of the National Data Commissioner to consider options for becoming an accredited user of Australian Government data under the provisions of this Act. Further data initiatives also commenced during 2022, such as the Commonwealth Deputy Secretaries Data Group Sub-Committee on Governance of Indigenous Data convened by the National Indigenous Australians Agency (NIAA), as well as plans to establish pilot projects at six locations across the country to

test the practical application of Priority Reform 4 of the Closing the Gap agenda. However, learnings from these exercises were (and still are) into the future as far as the immediate information needs of Anindilyakwa were concerned. To that extent, the present exercise commissioned by the ALC became an exercise in proof of the IDG concept with potential national implications.

A critical part of the present project, as flagged by the ALC in its Strategic Plan, was the provision of technical and practical advice on the establishment of an Anindilyakwa Data Unit within the ALC structure. In time, this entity would build and manage a database of the Archipelago population and develop an on-going capacity to retrieve, store, manage and utilise administrative data from government and internal sources for reporting to the ALC Board to support their evidence-based decision making. As we shall see, this Unit is now a reality.

Methods

Aside from negotiating the MOU and managing the research agreement governing these activities, the role of the FNP has been to assemble a team of academic researchers from relevant parts of the ANU to collaborate in addressing the three terms of reference of the agreement as specified above: develop a community profile; align this with the LDMA; and build an ALC data unit. For this purpose, in addition to FNP involvement, several academics from the ANU's Research School of Social Sciences (RSSS) were engaged for variable part-time input. FNP staff took the lead in managing the project and in preparing the present report with contributions from RSSS colleagues and ALC staff. FNP also worked closely with the ALC, community members, and other stakeholders to navigate the laborious process of accessing, receiving, managing and ground-truthing administrative data.

To identify and quantify the trajectory of change in social and economic outcomes since the original baseline community profile, the aim has been to build whole-of-population statistical time series of public and restricted access social indicators from a variety of published and unpublished sources. An important adjunct activity has been the ground-truthing of these data. This involved the services of up to 25 locally-based Traditional Owners and ALC staff at various times and for varying periods, with individuals either recruited to the task and remunerated by the ALC or re-assigned duties as part of their existing employment. Their tasks included a count of the Groote Archipelago resident Indigenous population as validation for the 2021 Census; development of a listing of Groote Archipelago workplaces and identification of persons employed, again to validate the 2021 Census; engagement with focus groups to elicit feedback on trends emerging from the project data; and, finally, assistance in triangulating official government data with equivalent data held by local agencies, especially the ALC's Community Support Program (CSP).

As for external data sources, these included the Census of Population and Housing, as well as administrative collections held by Australian Government and NTG departments. To facilitate access to the latter, liaison arrangements were established between the ALC and nominated officers in the NTG and Australian Government. In the former case, the Department of Chief Minister and Cabinet was the primary contact. As for Commonwealth agencies, the NIAA performed a similar role.

Ethics approval for FNP's involvement in this project was provided via a research agreement with the ALC and by the ANU's Human Research Ethics Committee. All administrative data were applied for, received, stored and managed by the ALC's incipient Data Unit and access to select health data was approved by the joint NT Health and Menzies School of Health Research Human Research Ethics Committee. Under these clearances, and the ALC's own rules of data custodianship, secure access to data acquired by the ALC was provided to ANU personnel as required for the purposes of collaborating in preparing this report. All data were received in aggregate and confidentialised format and refer either to persons who nominated the Groote Archipelago as their usual place of residence or to population-related events that occurred within the region. These data were released by relevant agencies according to their own rules of population definition and data extraction. As for census data, these were obtained from ABS standard release community profiles or otherwise generated from the ABS' TableBuilderPro. This is a web-based platform that allows the extraction of confidentialised census cross-tabulations.

It should be noted that the official data used here from the 5-yearly census, and from the more continuous gathering of information by government agencies, are only analogues of real people and their circumstances on the ground. They are available as by-products of administrative systems rather than based on social and economic constructs that might have more relevance to Anindilyakwa. Any attempt to move beyond this to improve data quality, content, and utility in ways that might be preferred by the ALC would require greater Traditional Owner involvement in data design, collection and interpretation (Walter and Andersen 2013; Morphy 2016). Determining what these requirements might be is one of the tasks that lies ahead for the Anindilyakwa Data Unit.

2. Anindilyakwa demography

An essential input and background to discussion and implementation of the LDMA is an accurate measure of the target population because this determines the size and composition of many of the issues faced. However, before attempting to provide this, it should be stated that for the most part there are no official statistical data that separately identify Anindilyakwa, whether resident in the Groote Archipelago or not. What does exist, is a wide-ranging set of data for individuals who identify as Indigenous (actually, as Aboriginal and/or Torres Strait Islander) in various administrative statistical collections, including in the national census, and who indicate that one of the communities in the Groote Archipelago is their usual place of residence. These are the data that are mostly drawn upon in this profile. However, figures available from the ALC on the registration of Traditional Owners and their residence, combined with local anecdote, make it clear that the vast majority of Indigenous people referred to in census and administrative data as usual residents of the region would be Traditional Owners.

Population counts

What would appear to be a straightforward issue – the size of a population – is in the Arnhem Land context quite complex. Populations here are as much culturally-defined as they are locationally- or residentially-defined (Morphy 2010a, 2010b). As a result, no simple, singular definition or measure of the population of the Groote Archipelago exists, either past or present. Determination of this is contextual – it depends on who is defining and who is measuring, how they are doing this, and for what purpose. In the formal sense of an administrative population, a variety of arrangements for enumerating or estimating numbers have come and gone over the century since 1921 when the affairs of Anindilyakwa first became subject to the influence of external

authorities. As part of this engagement, the earliest estimate of the regional population was made by Tindale (see Clarke 1994: 33-36) who proposed an upper limit of 300 based solely on observation and encounters with people during a circumnavigation of the Archipelago in 1921–22. From that time until the late 1970s, such figures as existed were derived from the requirements of Church Missionary Society (CMS) missionaries and others, first at Emerald River and then at Angurugu and Umbakumba, to report annually to Northern Territory welfare authorities on their activities in servicing 'in scope' populations.

Since 1971, official responsibility for counts of the Indigenous population of the Archipelago has fallen solely to the Australian Bureau of Statistics (ABS) via its 5-yearly Census of Population and Housing pursuant to its responsibilities under Section 46 of the *Commonwealth Electoral Act 1918*. It is worth noting that following the Referendum of 1967 there was no longer a requirement in the Australian Constitution for the ABS to separately identify Indigenous people of the Groote Archipelago, or anywhere else for that matter, in census enumeration. This administrative practice was purposefully retained by the Australian Statistician for the 1971 Census, and has continued ever since, in order to provide statistical input to government departments for their purposes of policy-making and service delivery towards Aboriginal and Torres Strait Islander people. However, it could just as easily be discontinued if these government requirements were deemed unnecessary. While this is presently unlikely, it is raised here as it underlines the precarious situation that Indigenous communities face in their reliance on outside agencies for essential information about themselves.

Against this background, the advent of the LDMA and associated moves towards local

autonomy and self-determination, provides an opportunity for increased involvement by Anindilyakwa in defining and representing themselves statistically to suit their own purposes. As a prelude, in 2010, a culturally-nuanced enumeration was conducted by local people as input to the planning processes associated with the first phase of the Groote Eylandt RPA. This recognised a distinction between a core population of usual residents, a visitor population present on-island, and an Anindilyakwa diaspora resident off-island – with considerable mobility between all three (Morphy 2010a). A version of this approach (impacted somewhat by COVID-19 restrictions which limited house-to-house visits and intensive interviewing) was utilised by Traditional Owners again in 2022 to inform the present report. Part of the diaspora referred to includes individuals whose primary residence is off-island but who have been determined by the ALC Board to be Traditional Owners on the grounds of their connection to the land and people of the Groote Archipelago. Others include people away for medical reasons, schooling or incarceration. In official ABS counting such people may not be considered as part of the population, but they do form part of the population from fiscal, service delivery and cultural perspectives. The problem is, they are difficult to quantify.

Usual resident vs service population

A key distinction may be drawn between a usual resident population and a service population (Markham et al. 2013). Against a background of frequent population movement between places, the former refers to persons whose primary place of residence (i.e. most frequented location over a given year) is somewhere in the Groote Archipelago. Counts of this population include persons who may be temporarily absent from their primary residence at the time of enumeration, for example in Numbulwar, Darwin or Cairns. As such, it forms the essential population base for the community profile as the all-important

denominator for prevalence calculations – that is, the rates at which different events occur in the population, such as employment rates, hospitalisation rates, school attendance rates and so on. This is because events that occur within the population (births, deaths, employment, school attendance etc.) are invariably gathered by agencies according to a person's usual address and so at least some degree of concordance exists between the count of usual residents and available administrative data that are about them.

The service population is quite different. It refers to the collective of individuals who create a demand for services in the Groote Archipelago but who are not necessarily usual residents of the region as defined above. Invariably, service populations are greater than usual resident populations, but they can vary according to which service is being referred to – for example, housing, health services or education. Therefore, the answer to the seemingly simple question, 'what is the Indigenous population of the Groote Archipelago?' depends on the purpose in hand and the results invariably exist within a range.

At the present time, for the Groote Archipelago, this range extends from an Indigenous usual resident population of around 1,550, to a wider diaspora service population of approximately 2,100 which includes all usual residents plus Traditional Owners who live elsewhere and others who occasionally spend sufficient time in the region and make use of services there as to warrant the issuance of an ALC ID Card or Kids Card. Movement from within this pool in and out of the Archipelago is highly variable and contingent on events such as funerals, festivals and social visits (Morphy 2010a, 2010b). Important as they are in assessing population levels, systematic and reliable data on the composition and scale of these people flows and their net impact on service loads are not available for the current exercise. Filling this gap would require a separate dedicated study.

An indication of the size and age composition of this service population can be gleaned from a comparison of population data from the ALC's CSP and the ABS' 2021 Census count of usual residents. The CSP holds age and sex data on all Anindilyakwa Traditional Owners as well as individuals who receive support services from them regardless of their place of residence. Overall, the count from CSP is 23% higher than the census count at 1,936 as opposed to 1,574. Figure 2.1 compares the age distribution of this diaspora count with the 2021 count of usual residents and shows that most of this difference is due to higher CSP numbers at ages above 20 years. This is because the CSP figures include all Traditional Owners aged 18+ regardless of usual residence, whereas the census count is restricted to persons resident in the Groote Archipelago. At younger ages, especially 0–9 years, CSP figures fall substantially below the census count because not all children are registered for support services. If the difference between the counts in this age group are added to the CSP count, we can arrive at an overall minimum estimated service population of 2,100. For the remainder of this profile, it is the usual residence count, rather than this estimate of service population, that is utilised for population analysis.

Figure 2.1 *Comparison of 2022 Community Support Program registered population and 2021 Groote Archipelago Census count, by age*
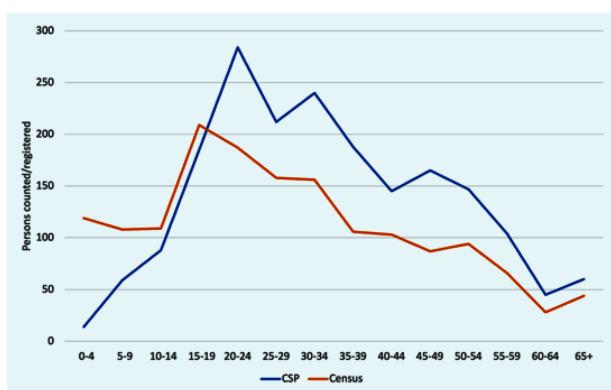
Source: ALC CSP and ABS Census of Population and Housing.

Population estimates

Before closing on these definitional issues, some comment should be made about population estimates that are produced by the ABS after each census enumeration, simply because they exist and they can confuse matters. It is acknowledged by the ABS that individuals can be missed by the census process or even double-counted, especially in remote communities such as in Arnhem Land, given high levels of mobility between locations (Morphy 2010b). To compensate for this, and arrive at a final reckoning of numbers, an estimate of net census undercount is established by a post-enumeration sample survey and then statistical and algorithmic adjustments are applied to census counts to derive a final 'estimated resident population' (ERP).

Reliability of these ERPs is best achieved at high levels of aggregation, such as the East Arnhem region as a whole. While estimates are produced for smaller areas within this region, such as the Groote Archipelago, their accuracy is far less certain, indeed it is unknown. A further shortcoming is the lack of any estimation of age groups at the small area level – all we have are estimates of total population. In previous census years (from 2001 to 2016) these estimates have pitched the Indigenous population of the Groote Archipelago at between 13% and 22% higher than the census count (the figure based on the 2021 Census will not be available until 2023). Given the uncertain reliability of these small area estimates and the lack of age breakdown, use of these ERPs in the present report is relegated to the role of a pointer to the likely size of the service population rather than as an adjustment to usual residence counts. Support for this approach comes from the close correspondence in scale between the local counts of usual residents conducted by Traditional Owners in 2010 and 2022 and the corresponding 2011 and 2021 Census counts

(ALC count in 2010 = 1,455, ABS Census 2011 = 1,559; ALC count in 2022 = 1,364, ABS Census 2021 = 1,574).

For the most part, then, the 'population' of the Groote Archipelago is defined in this report as the ABS usual resident population, which is equivalent to what Morphy (2010a) referred to in the original baseline community profile as the 'stable core'.

Groote Archipelago: Indigenous population change 1951–2021

As indicated above, over the past century a variety of administrative processes have been applied by outside agencies to enumerate the Indigenous population of the Groote Archipelago. In Figure 2.2 we pick up the history of enumeration in the immediate post-war period at a time when the CMS mission had been well established at Angurugu and had assumed responsibilities for government administration, while Fred Gray undertook

the same role at the emerging settlement of Umbakumba. These authorities undertook an annual count of individuals under their jurisdiction for reporting to the Northern Territory Administration (the CMS assumed this responsibility for Umbakumba from 1958 to 1966 followed by the Northern Territory Welfare Branch until 1973). By tracking these administrative counts through to the 1970s, and then from the 1980s using ABS census counts, we can reconstruct the level and rate of population change with reasonable consistency over the past 70 years, roughly the period covering the past three or so generations of Anindilyakwa – depending on how generations might be calibrated in that cultural context. For the most part, these counts refer to the usual resident population of the region, although between 1981 and 2001 they refer to the population counted as present in the region at census time regardless of actual usual residence.

Figure 2.2   *Indigenous population counts: Groote Archipelago, 1951–2021*
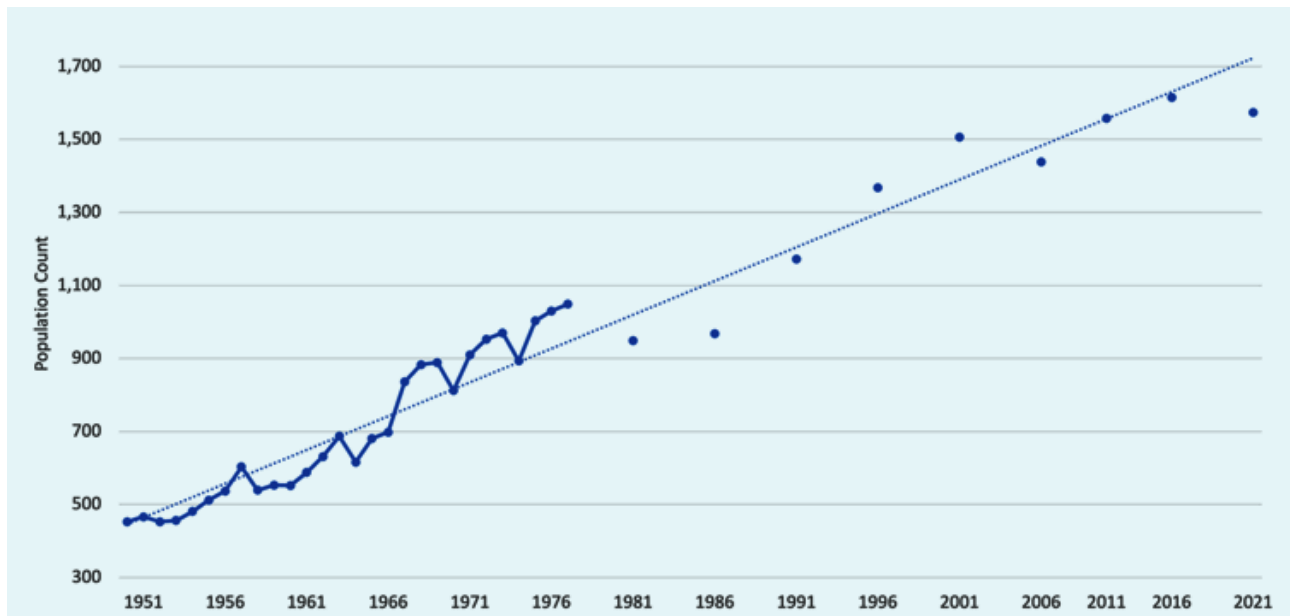
Sources: Government records 1944–49, 1974–77; Report of the Administration of the Northern Territory 1949–1958; Northern Territory Administration Welfare Branch Annual Reports 1958–73 (all cited in Kauffman 1978). ABS Census of Population and Housing 1981–2021.

We can see that the population emerging out of World War II was relatively small, although it had increased from Tindale's 1921 estimate of around 300. With the growing influence of the mission and more centralised living close to services, especially medical services, numbers steadily increased through the 1950s and 1960s with a considerable surge apparent between 1967 and 1976. It is not clear whether the noticeably lower subsequent counts in 1981 and 1986 reflected the shift to ABS enumeration, however the period since 1991 resumed the longer-term upward growth trajectory, at least until the present period since 2016. The current usual resident population sits at 1,574.

What is less apparent from Figure 2.2 is the existence of two broad periods of population growth, one of high and consistent growth and one of declining and now low growth. These are revealed in Figure 2.3 which shows average annual population growth rates for different periods since 1951. Prior to 2001, population growth rates had been consistently over 2% per annum, even twice that rate in the 1960s. Since that time, however, growth has steadily declined to the point where it is now essentially stalled.

Figure 2.3   *Average annual percentage population growth rate: Groote Archipelago, 1951–2021*
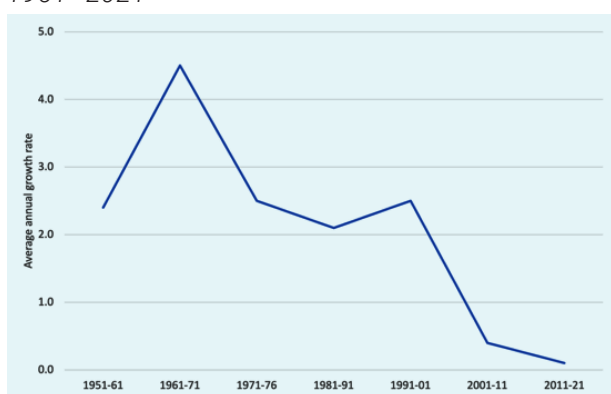
Source: Author's own calculations.

This narrative of a recent slowing down in population growth along with a current enumerated resident population in the region of 1,550 to 1,600 is supported by the findings of the 2010 and 2022 population surveys conducted by Traditional Owners. First of all, in 2010, the Traditional Owner survey revealed a population of 1,455, which was very close to the 2011 Census count of 1,558. Likewise, in 2022, the enumeration by Traditional Owners counted a broadly similar figure (1,364) as the previous Traditional Owner count, while the 2021 Census figure was 1,574. All of these counts point to a resident Indigenous population in the region of 1,400–1,600. They also indicate that this figure has remained more or less stable over the past decade.

Population counts by community

The population of the Archipelago is spread across the three main communities of Angurugu, Umbakumba and Milyakburra, and the smaller satellite communities of Malkala, Bartalumba Bay, Little Paradise, Emerald River, Yenbakwa, Leskie Pools, Thompson Bay, Central Lake and 4-Mile, as well as the mining township of Alyangula. The largest concentration remains in Angurugu with a population in 2021 of 858 (Figure 2.4). This is almost identical to the population counted by Traditional Owners in 2010 (Morphy 2010a), although the official census counts since 2006 point to a slow but steady increase over time. The population at Umbakumba also rose but more rapidly between 2006 and 2016 to reach almost 500, although it has since fallen back to just under 400. Milyakburra has remained more stable at between 100 and 150, while numbers in the satellite settlements were falling between 2006 and 2016 but have since revived to reach almost 160 in 2021. The number of Indigenous residents of Alyangula was stable at around 100 but has fallen in recent time to just 41.

Figure 2.4 *Indigenous population counts by settlement: Groote Archipelago, 2006–2021*
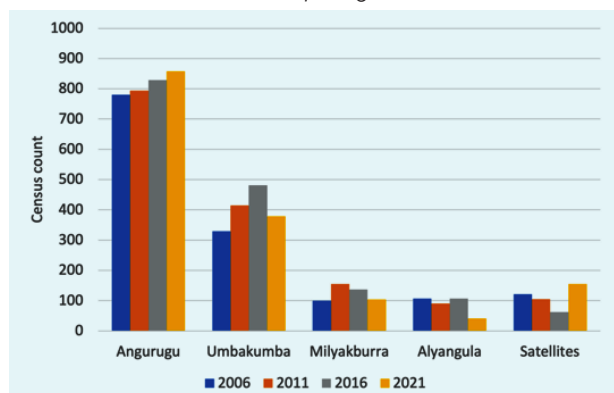
Source: ABS Census of Population and Housing.

Age and sex composition

A key component of demography that has major implications for development planning is age structure. This is also a component that can radically change over time due to age-selective net migration as well as variable mortality and fertility. Figures 2.5 and 2.6 reveal different measures of the change in age distribution of the Indigenous population in the Groote Archipelago between 2001 and 2021. In Figure 2.5, we can see that the 2001 population declined in fairly regular fashion from the 0–4 age group down to old age, with a slight bulge in the middle age groups. By 2021, however, this pattern is now far less linear with far fewer children and youth than in 2001, many more in the young adult age group and consistently higher numbers at older ages. Figure 2.6 provides another view of this change and highlights the considerable shifts in population at both extremes of the age distribution with far fewer numbers of young people and far more old people. In between, young adults have emerged as a more prominent group.

Figure 2.5 *Age distribution: Indigenous population of the Groote Archipelago, 2001 and 2021*
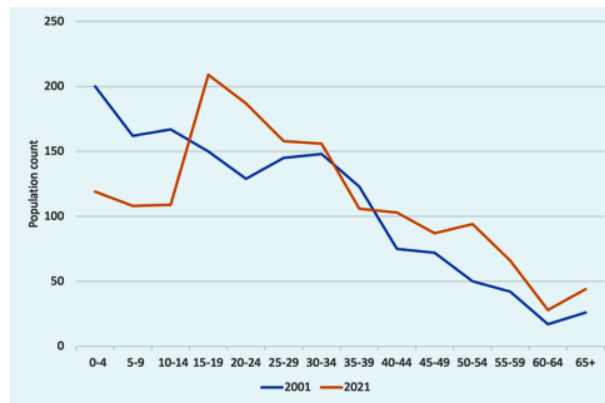
Source: ABS Census of Population and Housing.

Figure 2.6 *Change in Indigenous population by age group: Groote Archipelago, 2001–2021*
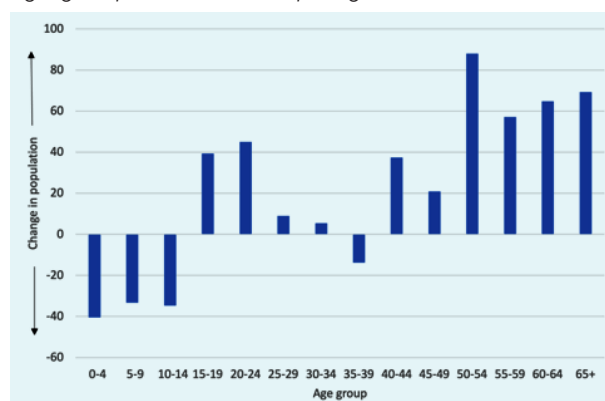
Source: Based on ABS Census of Population and Housing.

This structural 'ageing' of the population has very strategic social and economic planning implications for the region since it signals the presence of a potential 'demographic dividend'. The notion of demographic dividend refers to that period in the middle of the transition of a population from being predominantly 'young' to being predominantly 'old', when the bulk of the population is to be found in the key workforce age groups between 15 and 54 years (usually 15–64 years but here we use 15–54 to reflect early onset morbidity). During this period, employment, earnings and productivity are potentially maximised and economic and dependency ratios are potentially minimised.

The term 'potentially' is critical here since these outcomes do not occur of their own accord – they require deliberate foresight, strategic planning and investment to ensure that the population moving into working-age is work-ready and that opportunities are available to absorb them. Australia as a whole has long-since exited this phase of transition, having commenced its progression in the 1960s with positive economic impacts due to high rates of education and labour force participation that accompanied the bulge in working-age population (Jackson and Felmingham 2004). While calculations of demographic dividend are typically applied at national levels and for whole populations, the logic can still apply at the regional level and for sub-populations. Consequently, a key measure to establish is the trend in the working-age proportion of the Archipelago population. This is shown in Figure 2.7 for the period since 2001 against the corresponding proportion in the dependent age groups of 0–14 and 55+.

Figure 2.7 *Percentage of Indigenous population in prime working-age and dependent-age groups: Groote Archipelago, 2001–2021*
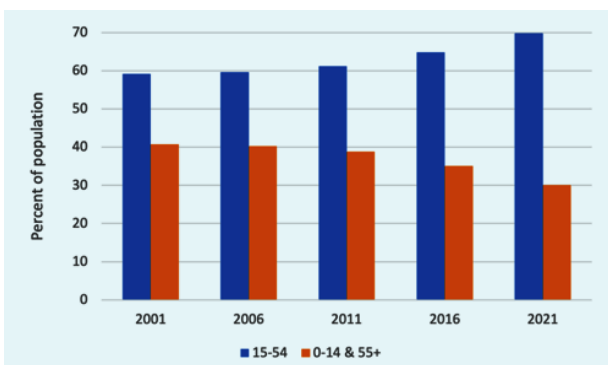
Source: ABS Census of Population and Housing.

With 20 years-worth of data to hand, we can now see that the Indigenous population of the Groote Archipelago has been moving steadily into a phase of potential demographic dividend. The share of its population in the prime working-age group of 15–54 years has been steadily increasing over much of this period, from just under 60% to 70% of the total,

and the corresponding share of population at dependent ages has decreased from 40% to its current low of just 30%. Depending on what happens to fertility and mortality in future years, this dominance of economically-productive over economically-dependent age groups could last for many years and provide an opportunity for substantial productivity growth – subject, of course, to the ability and inclination of individuals to be economically active in such a way and for economic opportunities to be created. It is also the case that this demographic 'window' is unlikely to last since the age-dependent group will eventually rise as a proportion as the aged population continues to increase, to say nothing of the effect of any possible return to higher fertility from the very low level that is presently observed.

It should be emphasised that these observations reflect a purely mainstream economic perspective on population change, in which employment in the mainstream economy is assumed to be unambiguously desirable at both the individual and the societal level. There are complex reasons why this assumption is problematic in the context of remote Indigenous communities in general, and in the Groote Archipelago in particular. We use the term 'employment' rather than 'work' deliberately here, since it can be argued that in such communities a 'cultural economy', complete with its own kinds of valued work, exists in parallel with the mainstream economy (see Morphy 2007: 110–112) and that engagement in these may be preferred even in situations where conventional employment opportunities exist, as in the Groote Archipelago.

Whichever interpretation of value is applied to these trends, it is not clear if decision-makers in general have been aware of the opportunities and pitfalls presented. Certainly, the issue has long-been tabled in the Indigenous policy literature (Jackson 2008, 2016; Biddle and Taylor 2012: 581–583), but the key government documents that examine the economic implications of demographic change (successive Federal Treasury *Intergenerational Reports*) have not even mentioned Indigenous people, let alone raised issues to do with demographic dividend. They have been focused solely on impacts for the whole Australian population and have therefore been more concerned with issues to do with funding retirement and aged care. That is not to say that efforts to maximise Indigenous employment and workforce readiness have not been made, including among Anindilyakwa. Rather, it is to point out that scrutiny of these efforts and their effectiveness becomes much more of an imperative and part of a business case for investment in human capital when framed against the background of the potential benefits that could arise from a demographic dividend versus the consequences that could follow if these are not realised. In terms of many of the economic objectives of public policy aimed at 'closing gaps', including those adopted by Anindilyakwa, this could be a once-in-a-demographic lifetime opportunity to head-off a permanent condition of welfare dependency, not only in the Groote Archipelago but across remote Indigenous communities more generally.

Policy age-groups

As for age groups that typically form the target of policy intervention, changes in group size are shown in Table 2.1. In this arrangement, infant years include those aged 0–3 years, transition into schooling includes 4 and 5 year-olds, and compulsory school years includes the 6–17 years age range. Thereafter, we can identify the approximate transition years from schooling into work as ages 18–24 years, although in truth many 15–17 year-olds may have effectively opted out of schooling and so there is also a case to examine labour force participation in the more conventional way inclusive of those aged 15 plus. The prime working-age group is identified as ages 25–54. 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, health conditions associated with ageing often affect Aboriginal people earlier than other Australians. Consequently, the Commonwealth provides access to aged care services at 50 years of age for Aboriginal people compared to 65 years for the broader population. Nonetheless, many Anindilyakwa over the age of 50 years remain actively engaged in employment and so some concession is made for this with the lower limit for the 'aged' population set at 55 years.

Table 2.1 *Change in the size of social policy age groups: Groote Archipelago, 2001–2021*

Age group	2001	2021	Change	% Change
0–3	163	85	−78	−47.9
4–5	79	52	−27	−34.2
6–17	375	308	−67	−17.9
18–24	191	287	96	50.3
25–54	613	704	91	14.8
55+	85	138	53	62.4
Total	1,506	1,574	68	4.5

Source: ABS Census of Population and Housing.

The stark observation is that the infant and school-age populations have all substantially reduced in size since 2001 while numbers at young and prime working-age groups and especially at old age have substantially increased. Admittedly, using census data in this way to attach seemingly precise numbers to these groupings is always problematic given the very fluid nature of usual residence and the challenges of enumeration. However, what is more of interest from the point of view of policy development, and what holds more integrity, is the relative sizes of these age groups and their direction and degree of change over time. In this regard, there is clearly a burgeoning working-age group of around 1,000 persons with almost one-third of these in the transition phase from schooling to the workplace. Coming up behind this group is a diminishing school-age cohort down by 18% to just over 300 in 2021. This places extra pressure on ensuring that those of early workforce age are productively engaged if the economic and social dividends that might arise from demographic shift are to be realised. At the other end of the age distribution, growth in the aged population has been the most rapid at 62% over the past 20 years and this places greater focus on issues related to aged care and associated health burden. This growth in aged population can only continue to expand given the substantial population momentum implicit in the expanding working-age group.

Fertility trends

Fertility measurement

Fertility, migration, and mortality are the three demographic components that lead to changes in population size and structure. In an environment of relatively balanced migration, fertility is the dominant way that people are added to a population, while mortality is the dominant way that people leave. As discussed, changes in fertility over time drive the age structure of the population. This was demonstrated in the previous section, where notable declines in the 0–4 years age group led to a population age structure that had large numbers in the middle age groups, and many fewer children than in the past.

There are a number of ways to measure fertility. The first, is to calculate a 'Total Fertility Rate' (TFR). The TFR is obtained by first calculating the rates of childbearing at different age groups, normally 5-year age groups, known as 'Age-specific Fertility Rates' (ASFRs). In most populations, the ASFR is calculated from age 15 through 44, then summed to create the TFR. The measure is useful for comparisons between populations because it

is an age-standardised measure, meaning that if populations have different age structures the rates can be compared.

In low mortality settings, the TFR required for a generation to replace itself is approximately 2.1 and the structure of the mortality regime in the Groote Archipelago mirrors this. This figure of 2.1 is often known as 'replacement-level fertility' – that is, each woman would need to have 2.1 children on average – one child to replace herself, one child to replace her partner, and 0.1 to account for maternal, infant and child mortality. However, in most of the world's countries the TFR is now less than 2.1. In Australia, the overall TFR has been below 2.1 since 1976, and in 2020 it reached a record low of 1.58 (ABS 2021). Demographers classify very low fertility, or 'lowest-low fertility', as a fertility rate that is at or below 1.3 (Kohler et al. 2002; Billari and Kohler 2004).

However, despite the TFR being a widely availability statistic, the measure does have some disadvantages (Bongaarts and Feeney 1998). TFR is a period measure, meaning it averages childbearing at a point in time. However, differences in TFR – that is, whether the TFR is higher or lower for a given population at different times – is not always the result of a change in the *number* of children that women have (quantum) but could be due to when they have children (tempo). Hence, variations in TFR may be the result of a change in the timing of childbirth, but do not represent the completed number of children that women will have.

It is quite common for a decline in TFR to be the result of a change to a later age at childbearing for a cohort of women. So, instead of many women having children in one age group (e.g., at age 20–24) the next cohort of women may be more likely to have their children at age 25–29. But, when they have completed their reproductive years, the two cohorts of women may have a similar number of children ever born (e.g., 2 children

on average). Many populations have seen this increasing trend of delaying births to later ages. The question is, will a later age at commencing childbearing lead to fewer children overall? A decline in TFR may not result in a real decline in fertility if postponed childbearing is recuperated at later ages. In sum, changes in the TFR can result from a change in the average number of children, or because of a shift in childbearing to later ages. Of course, often when a decline in TFR is observed, it is due to a combination of both these effects.

One way to assess whether fertility is being delayed to later ages is to observe decreases in ASFR in younger age groups, and increases in ASFR in older age groups, compared to previous time periods. Another way to measure it is to compare completed fertility, either by age, or at the end of a cohort's reproductive lifespan (45 or 50 years of age). Completed cohort fertility (CCF) observes a cohort of women born in the same year(s) and calculates the average number of children born to the cohort. Again, there are advantages and disadvantages to this method. In Australia, the measure of cohort fertility can be obtained through the Australian census data which asks how many children have been born. It is not available through any other population data. With these measures in mind, we now turn to examine trends in fertility among Indigenous women in the Groote Archipelago.

Fertility trends in the Groote Archipelago

From available estimates, the fertility levels of Anindilyakwa people were extremely high in the mid 1900s. In the 1950s, the TFR was estimated to be between 9 and 11 (Gray 1983). By world historical standards, this was a very high fertility rate and it was likely associated with high infant and maternal mortality. The decline in fertility from that level started in the early 1960s, and it was an extremely rapid decline to a TFR of just over 4 by the mid 1970s (Figure 2.8).

Figure 2.8 *Total fertility rate by language of mother: Anindiliyakwa language group, 1952–1976*
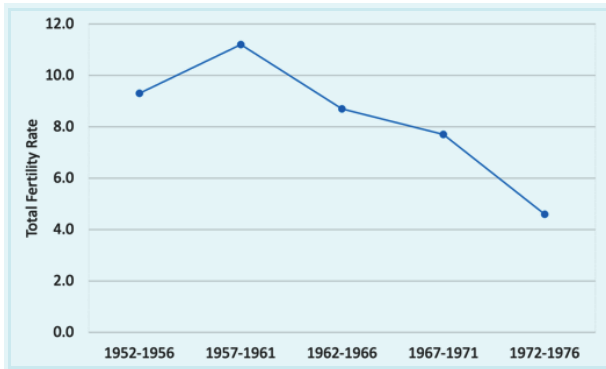
Note: Language group was used as a proxy to determine region as location data available with this source did not easily allow distinction by geography.

Source: Gray 1983: 144–146.

Fertility has continued to fall since this period, dropping to a TFR of 3.05 in 2000, and to below 'replacement level' TFR by 2010 (Figure 2.9). In 2020, the latest available data show that Anindilyakwa fertility levels have fallen to what is recognised as 'very low' fertility, with a TFR of 1.33. Comparatively, this fertility level is lower than that observed for Indigenous mothers in nearby regions such as East Arnhem (1.61), and substantially below that of the NT population as a whole (1.92). For context, the fertility level of 2020 on Groote Eylandt is now lower than that in countries that are concerned about their low fertility levels, such as China, Germany and Portugal, among others. This very low fertility level is somewhat unique in the Australian context, as regional and remote areas generally have higher fertility than the rate in urban areas (Evans and Gray 2018), although this is no longer the case for Indigenous fertility in the NT (Li and O'Neill 2021).

Figure 2.9 *Total fertility rate: Groote Eylandt SA2, Groote Eylandt Perinatal data, East Arnhem SA2 and the Northern Territory, 2000–2020*
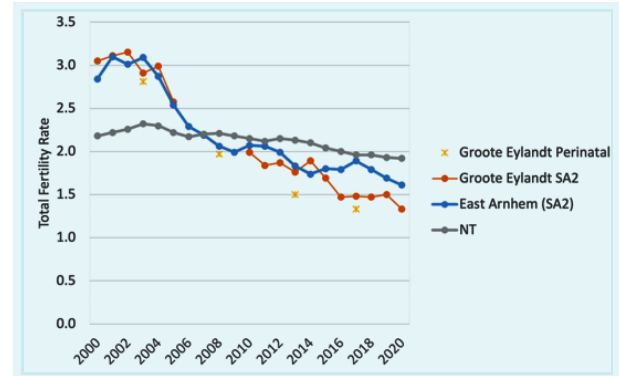
Source: SA2 series – ABS Births Catalogue No. 3301.0 2005 and 2020 (ABS 2006, 2021), Perinatal – ANU School of Demography calculations based on customised NT Perinatal data (births), and ABS Census of Population and Housing.

Substantial drops in TFR over a long time period, such as that observed for Anindiliyakwa, demonstrate a large change in childbearing, which almost certainly involves a drop in completed fertility. While census data for CCF (i.e. the number of children ever born data) is necessary for determining the exact change in completed fertility, these data are incomplete for the Groote Archipelago. The children ever born data contains large percentages of missing information, making it impossible to make sensible conclusions on either the distribution or average number of children ever born. However, it is clear from the pattern of TFR that there has been a continual decline in fertility, without evidence of increases in TFR. This can signal a delay in childbearing and the possibility of eventual recuperation at later ages.

To test for this, age-specific fertility rates can provide some information on the age at which Anindiliyakwa women are having babies, and they are informative for understanding the age at which mothers are having children. These data are also useful to see if there is an increase in fertility at later ages, which could indicate a recuperation in childbearing. ASFRs have been calculated over four time periods (2001–05,

2006–10, 2011–05, 2016–20), for three age groups (15–24, 25–34, 35–44). Ten-year age groups have been used due to the small population size of Groote Eylandt.

The results show that fertility has declined in all three age groups over the 20 years of data (Figure 2.10). During 2001–2005, the age group with the highest fertility was the 15–24 years age group. Fertility fell the most in that age group between 2000 and 2020, and by 2016–2020 the fertility of those aged 15–24 was the same as those aged 25–34. In comparison, the fertility of the 25–34 years age group also fell through to 2011–2015, but has stabilised and slightly increased in 2016–20. If these patterns continue, fertility will be lower for the 15–24 years age group than the 25–34 years age group. Fertility in the 35–44 years age group also shows signs of decline. Taken together, there is a decline in fertility in all age groups, and there appears to be no increase in fertility at later ages. As a consequence, childbearing at ages 25–34 is likely to become the most common age for having children.

Figure 2.10 *Indigenous Age-specific Fertility Rates*: Groote Archipelago, 2000–2020*
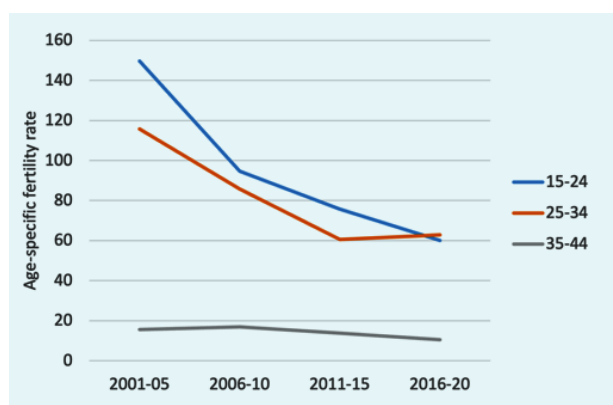
*The age-specific fertility rate (ASFR) is the number of live births (registered) during each 5-year period, according to the age of the mother, per 1,000 of the female population of the same age.

Source: ANU School of Demography calculations based on customised NT Perinatal data (births), and ABS Census of Population and Housing.

Mortality
Summary measures

The median age at death is defined as the age at which 50% of all deaths in a time period were deaths of people above that age and 50% below that age. It is a useful way to look at the level and distribution of mortality. Figure 2.11 shows the cumulative distribution of deaths of Indigenous residents of the Groote Archipelago in 2001–2010 and 2011–2020 based on registered deaths data provided by the ABS. In other words, it shows the percentage of all deaths over the period that have occurred by a certain age. As a point of comparison, the same cumulative distribution of deaths is shown for Australia as a whole in 2019. The dashed line represents the median age at death in the Groote Archipelago.

Compared to 2001–2010, levels of infant and child mortality were much lower in the latest period, particularly for males. This has resulted in the burden of deaths shifting to slightly older ages between 2011 and 2020. For instance, while the median age at death was in the age range 40–49 for both men and women in 2001–2010, it is now at ages 50–59 in 2011–2020. It should be noted that the median age at death is influenced by both the population's age structure and mortality level. This means part of the shift may also be due to a slightly older age structure in the latest time period. As a point of reference, we have also included the death distribution for Australia as a whole. This highlights the difference in mortality experience between the two populations and the relatively high burden of mortality that continues to exist in the Groote Archipelago, particularly amongst young and middle-aged adults. For example, Figure 2.11 shows that 50% of all deaths of Indigenous females in the Groote Archipelago between 2010-2020 had already occurred by age 40-49. By comparison, only 5% of female deaths had occurred by this age range in Australia as a whole. Having said that, this is illustrative only since unadjusted comparison

Figure 2.11   *Cumulative distribution of deaths by age: Groote Archipelago, 2001–2020*
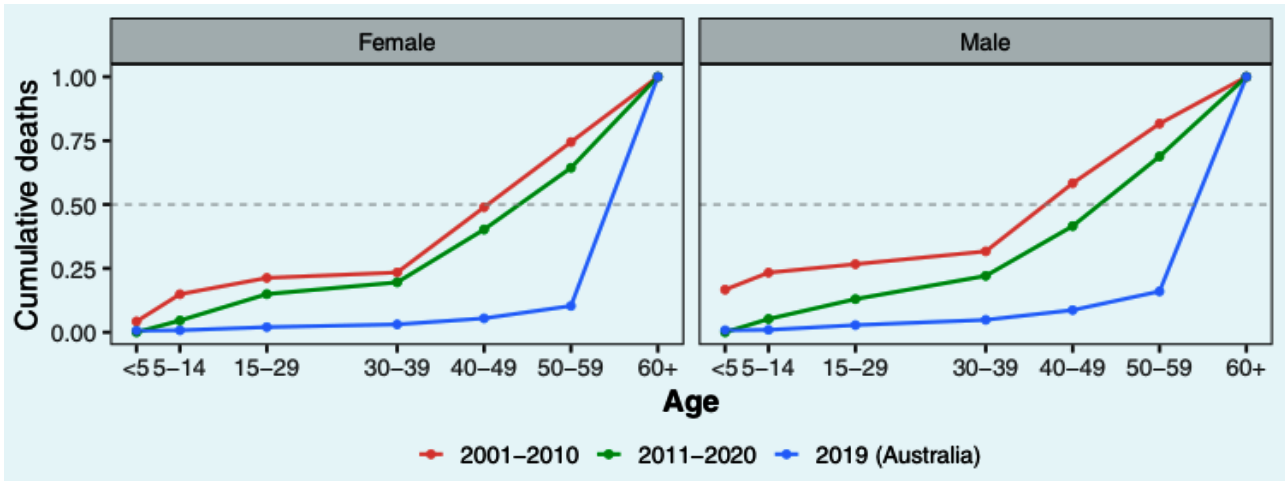
Source: ABS and Australian Institute of Health and Welfare National Mortality Database (AIHW 2021).

with the national population is not meaningful given the population age structures are very different from each other.

We can compare this distribution of deaths based on ABS data with that from records on burials held by the ALC's CSP, although we only have data from this source for the period 2019–2021. Comparing Figure 2.11 with Figure 2.12 shows that ABS is reporting lower child mortality than that indicated by the funeral data for both females and males. There are also some differences in the death distribution at certain older ages. For instance,

for females, ABS reports about 20% of female deaths occurring at ages 40–49, while the funeral data indicate that about 10% of female deaths occurred in this age group. For men, the ABS reports about 26% of deaths occurring at ages 50–59 while the CSP data indicate about 10% of male deaths at these ages. Overall, especially given small numbers, the patterns are broadly consistent across the two data sources. The main difference is that there may be child deaths that ABS is not capturing. This discrepancy highlights the need for more rigorous and systematic local collection of information on deaths.

Figure 2.12   *Cumulative distribution of deaths by age using funeral data: Groote Archipelago, 2019–2021*
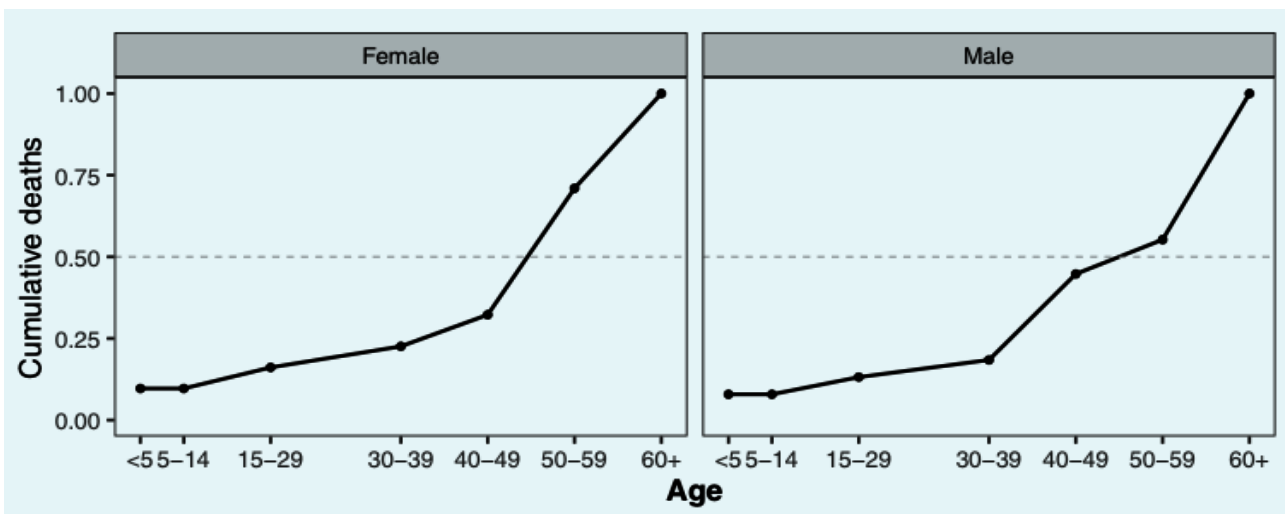
Source: ANU School of Demography using ALC CSP burials data.

 To summarise the mortality experience using a single number we can use the age-standardised death rate. It allows us to look at the hypothetical mortality rates for the two time periods if the age distribution was the same, while everything else remained unchanged. This is a useful way of comparing changes in overall mortality levels over time. Table 2.2 uses ABS data to show the age-standardised mortality rates for 2001–2010 and 2011–2020 if the time periods had the exact same age structure. This indicates that the overall mortality experience has worsened for both men and women in the latest time period. Men also had a higher mortality burden compared to women in each time period. In both time periods, the top two leading causes of death have been ischaemic heart diseases and chronic lower respiratory diseases.

Table 2.2 *Age-standardised Indigenous female and male mortality rates by sex (per 1,000): Groote Archipelago, 2001–2020*

	2001–2010	2011–2020	Difference	Ratio
Females	7.15	10.2	3.05	1.43
Males	11.30	12.60	1.30	1.12

Note: Age structure was applied based on females in 2011–2020 for all calculations.

Source: ANU School of Demography using ABS Deaths data.

Age patterns of mortality

Mortality varies by age as well as sex. While the above summary measures of mortality are useful in understanding the overall level of mortality in the population, they do not show differences between age groups in levels of mortality. This is important to know in order to identify those at highest risk of premature death. We can examine age-specific mortality rates to identify differences between age groups in their mortality levels. An age-specific death rate is the number of deaths in an age group divided by the number of people in that age group.

Figure 2.13 shows age-specific mortality rates for the periods 2001–2010 and 2011–2020 for males and females. Generally, mortality rates are low in younger ages and start to rise substantially after age 40. Comparing the 2001–2010 and 2011–2020 periods, lower mortality rates are observed for children in the latest time period (bearing in mind the earlier caveat regarding childhood data), while rates have slightly increased for most young, middle-aged, and older adult age groups, especially among females.

Figure 2.13 *Age-specific mortality rates: Groote archipelago, 2001–2020*
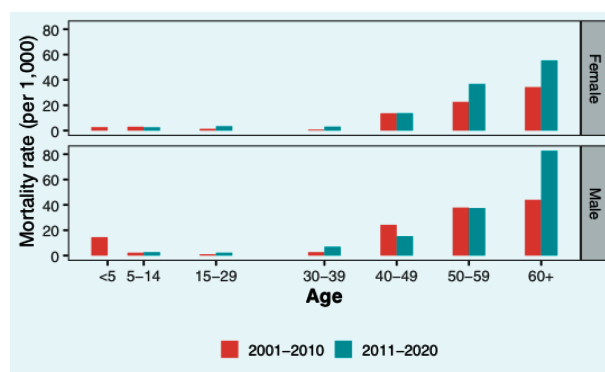
Source: ANU School of Demography using ABS Deaths data.

Figure 2.14 confirms this trend by comparing the mortality rates in each age group directly as the ratio of the 2011–2020 versus the 2001–2010 rate. For most young adult, middle-aged, and older age groups, there has been a slight increase in the death rate in the latest time period. For instance, while the mortality rate for ages 15–29 is relatively low, the rates for men and women in 2011–2020 were about 2 times as high compared to 2001–2010; and rates in the 30–39 age group were as much as 2.5 higher for men, and 4 times higher for women, in the more recent period.

Figure 2.14 *Age-specific mortality rate ratios: Groote archipelago, 2001–2020*
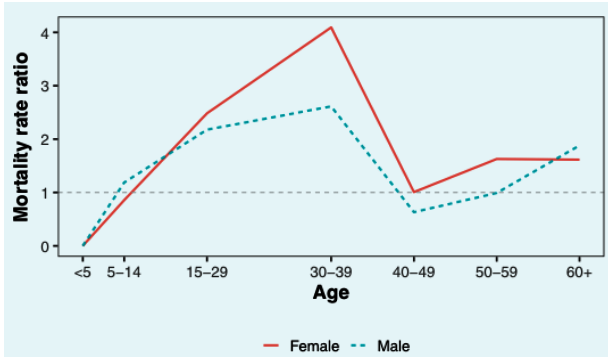
Source: ANU School of Demography using ABS Deaths data.

Bringing the official numbers on deaths together with those on births over recent years (Figure 2.15), we can see, at a glance, the demographic dilemma that now faces the Groote Archipelago. As births have fallen and deaths have risen, we have reached a point where these are close to cancelling each other out, leading to a situation of almost zero population growth excluding any impact of net migration. While the latter remains unknown, the zero-growth scenario is borne out by recent population counts. If we consider the data on burials over the past three years provided by the CSP, there is every possibility that the gap shown here is now even narrower.

Figure 2.15 *Total Indigenous births and deaths: Groote Archipelago, 2001–2020*
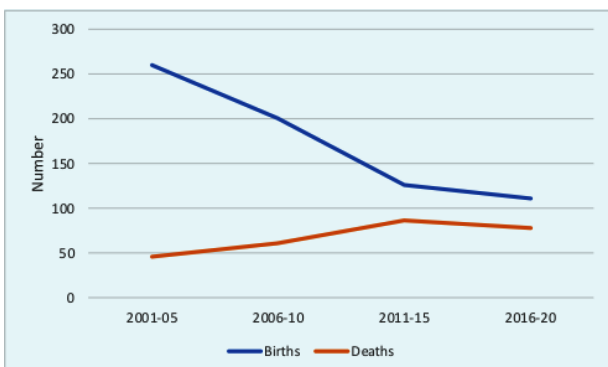
Source: ABS customised tables

Migration

The population of the Groote Archipelago is highly mobile. This is true of its Indigenous and non-Indigenous residents to the extent that defining who is a usual resident as opposed to an occasional visitor or worker can be challenging. As mentioned, there is a large and widespread Anindilyakwa diaspora. Many within this population have cultural and family ties to the Archipelago but only visit sporadically. Some are usual residents of the Archipelago but find themselves for a variety of reasons living for periods of time off-island in places like Darwin, Cairns or Numbulwar. On advice from staff at the ALC's CSP, that provides assistance to such people as required, common reasons cited include medical treatment, accompanying sick relatives, visiting relatives, attendance at festivals, schooling, and recreation. Strictly speaking, such people are not migrants in the sense that they intend to leave for good – they are just as likely to return as soon as their circumstances change.

In order to obtain some sense of the scale of these movements in and out of the Archipelago and whether, on balance, they have been adding to or subtracting from the population, we use data provided by Services Australia on the number of Centrelink customers who changed their official usual address from the Groote Archipelago to somewhere else in Australia and vice versa for each year from 2011 to 2021. The results are shown in Figure 2.16.

Figure 2.16 *Net migration of Indigenous Centrelink customers to and from the Groote Archipelago, 2011–2021*
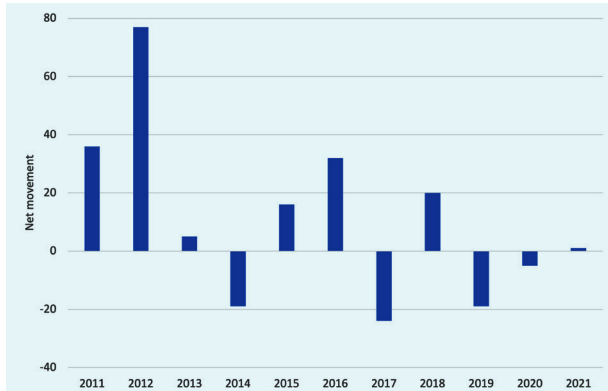
Source: Services Australia.

Over the 10-year period, movements 'in' of Centrelink customers have exceeded movements 'out' by 120. However, the distribution of these gains has not been evenly spread, with most net gains occurring in 2011 and 2012. Since then, population flows have been lower and have more or less cancelled each other out. What we don't know from these data is the number of people attached to each Centrelink customer and so there is no way we can use them to assess population impacts. However, they do suggest that, over the long-term, these impacts are likely to be minimal.

Bringing all of these components of population change together, we now turn to explore what they might mean for the future size and composition of the regional population.

Population projections

To date, planning processes in remote Indigenous communities have all too often made use of dated demographic information, usually sourced from the previous census – which can be up to seven years after the event. This creates a sense of uncertainty in assessing the adequacy of investments to address shortfalls in social and economic infrastructure. Such actions are therefore typically reactive to needs as they become revealed (e.g., in terms of *post facto* responses

to housing shortages or education needs), as opposed to being proactive in seeking to anticipate and plan for expected requirements. However, being proactive requires a measure of future requirements for works and services, and this is something that is rarely achieved, at least systematically, for remote communities.

Elsewhere in Australia, it is commonplace for governments and the private sector to build an approach to regional planning based on expected future population numbers (see, for example, https://population.gov. au). For this purpose, a standard cohort-component methodology is generally applied, and this practice is adopted here to project the Indigenous population of the Groote Archipelago 15 years hence, almost a generation from now.

It is important to understand what we mean by a population projection. It is simply a calculation of future population size and age structure based on assumptions regarding the three elements that contribute to change in a population – births, deaths and migration. If we alter any of these assumptions the outcome will change. For example, if we assume that the low fertility that we have seen in the Groote Archipelago in recent years will start to increase and return to higher levels, then this will have the effect of producing a higher population in the future, assuming, of course, that levels of migration and mortality remain unchanged. A projection is therefore not a forecast. It is not a speculation of what we think will occur based on various trends and development plans for the future. It is simply an objective statement of statistical outcomes.

To keep things simple, in this report we assume that existing fertility and mortality levels will remain the same over the next 15 years and that migration will be set to zero (i.e. the number of people moving out of the Archipelago is the same as the number moving in). With projection results based on these assumptions, it provides the ALC

Board with an opportunity to examine what would happen if the assumptions were varied. For example, if fertility were to increase and mortality to decline, what would be the outcome? Or perhaps, if people started to return to the Archipelago, how would this affect future numbers, and so on? To facilitate such speculation by ALC officials, we have designed an interactive software interface with the projection model for use by the Anindilyakwa Data Unit.

We have modelled two sets of projections and these are shown in Figures 2.17 and 2.18. They both assume constant fertility, and balanced migration between 2021 and 2036. However, the projections have different underlying mortality estimates, based on different data sources. Population projection 1 uses the ABS Indigenous life tables (remote) for 2015–2017. Population projection 2 uses the life table estimates calculated from 2019–2021 ALC administrative data. In effect, the ABS life table represents the combined Indigenous mortality profile across all remote areas of Australia derived from official death registrations, whereas the ALC-based life table reflects local outcomes using information on burials. As we have seen, the latter life table reflects higher mortality estimates than the former, especially for children and at older ages for males.

Overall, the projections show very similar outcomes in terms of future population size and age structure. Firstly, due to low fertility, the share of population at younger ages is projected to decline. By 2036, in both scenarios, there will be fewer children and fewer young adults. Second, the percentages in older age groups will grow. From the age pyramids, we can see at a glance that the population is considerably older in 2036.

In terms of population size, projection 1 estimates a population of 1,607 in 2031, up slightly from 1,567 in 2021. In comparison, projection 2 estimates no growth, with a population size of 1,571 in 2036. In sum, the projections suggest very little or no growth in population size, with fewer children, and more older adults.

Figure 2.17 *Population projection 1: Percentage distribution of Indigenous population in Groote Archipelago, 2021 (actual) and 2036 (projected)*
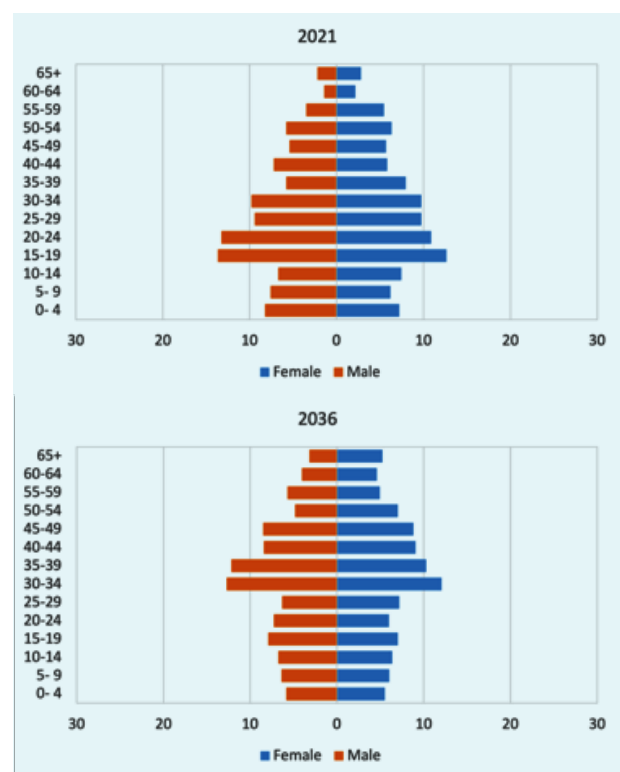
Source: ANU School of Demography calculations.

Note: Population projections 1 assumptions: Fertility based on perinatal statistics 2016–2020; Mortality based on ABS NT Indigenous life table (remote).

Figure 2.18 *Population projection 2: Percentage distribution of Indigenous population in Groote Archipelago, 2021 (actual) and 2036 (projected)*
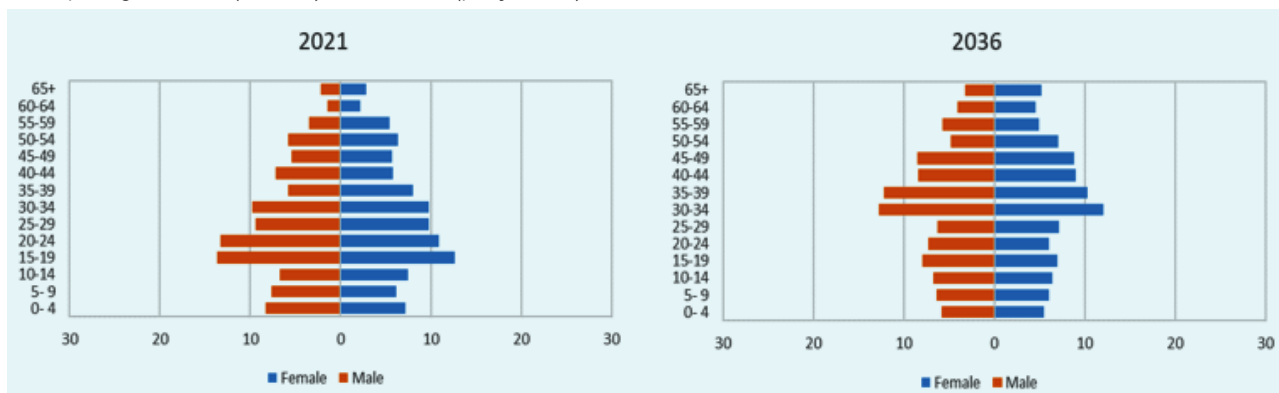
Note: Population projections 1 assumptions: Fertility based on perinatal statistics 2016–2020; Mortality based on ALC administrative data.
Source: ANU School of Demography calculations.

For reference purposes, the numbers of females and males in each 5-year age group in 2036 are shown in Table 2.3. A summary is provided for the total population in Table 2.4 according to broad age groupings that are likely to be of interest for different components of the LDMA.

Table 2.3 *Population projections 1 and 2, numbers by age and sex, 2021 and 2036*

Age group	Female			Male		
	2021 (actual)	2036 (Projection 1)	2036 (Projection 2)	2021 (actual)	2036 (Projection 1)	2036 (Projection 2)
0– 4	57	45	44	64	47	46
5– 9	49	49	48	59	51	51
10–14	59	51	48	52	54	51
15–19	100	57	54	106	63	61
20–24	86	48	49	103	58	58
25–29	77	58	58	73	51	51
30–34	77	97	96	76	102	102
35–39	63	83	83	45	98	97
40–44	46	73	73	56	68	68
45–49	45	71	71	42	68	67
50–54	50	57	56	45	38	37
55–59	43	40	39	27	46	40
60–64	17	37	35	11	32	28
65+	22	42	47	17	26	14
Total	**791**	**808**	**800**	**776**	**801**	**771**

Source: ANU School of Demography calculations.

Table 2.4 *Change in the size of social policy age groups based on Projection 2: Groote Archipelago, 2021−2036*

Age group	2021	2036	Change	% Change
0−4	121	90	−31	−25.6
5−14	219	198	−21	−9.6
15−24	395	222	−173	−43.8
25−54	695	859	164	23.6
55+	137	203	66	48.2
Total	1,567	1,572	5	0.3

Source: ANU School of Demography calculations.

The numeric impact of ageing is clearly shown. Based on the projection assumptions, the early childhood group will be 25% smaller in 2036 and the (approximate) school-age group 10% smaller. Young adults aged 15−24 years will decline the most, reducing by almost half. The only growth is among those of older age – those of prime-working age increasing by one-quarter and the old age group almost doubling in size.

These shifts in age structure bring to the fore the matters regarding demographic dividend mentioned earlier and they focus attention on those currently of school and school-leaving age. These are the ones who over the next 15 years will be moving into the expansionary working-age group. While there will be fewer individuals to provide services for, now is the time to be addressing questions about their likely readiness for workforce participation. Relevant sections in the remainder of this report shed some light on this question.

Key findings: Demography

- The growth rate of the resident Indigenous population of the Groote Archipelago has been in steady decline since 2001.
- The resident Indigenous population has been stable over the past decade at around 1,500 to 1,600 people.

- A wider Anindilyakwa diaspora service population exists. It is estimated to be currently around 500 people.
- There is a good deal of people movement in and out of the Archipelago but over the long term these movements have cancelled each other out and they have not impacted on overall population levels.
- The main driver of demographic change has been a decline in fertility, especially among women aged 15−24 years.
- Fertility is now well below replacement level and amongst the lowest rates in the world.
- One consequence of lower fertility has been an ageing of the population with progressively fewer children and more in working-age and old age groups.
- Mortality rates for both men and women remain high at early ages, with little overall improvement since 2001.
- Over the period 2001−2010, half of all deaths for both men and women occurred by the time they reached the 40−49 age range. In the more recent period, 2011−2020, the age range was 50−59. However, adjusted for age, mortality is now higher.
- Comparing 2001−2010 and 2011−2020, childhood mortality rates are lower in the latest time period, while rates are slightly

higher for most young, middle-aged, and older adult age groups.

- Over the 20 years between 2001 and 2020, the top two leading causes of death have consistently been ischaemic heart diseases and chronic lower respiratory diseases.

- Population projections based on no change in current fertility and mortality and zero net migration show zero growth in population over the next 15 years to 2036. They also reveal a rapidly ageing population with fewer children.

- Population projections based on no change in current fertility and mortality and zero net migration indicate there will be substantial reduction in the number of the young adults aged 15–24 years.

- Greater numbers in the population over 55 years will increase pressure on health services and aged and disability care services.

- Any alteration to the assumptions underlying the projections will alter the outcome.
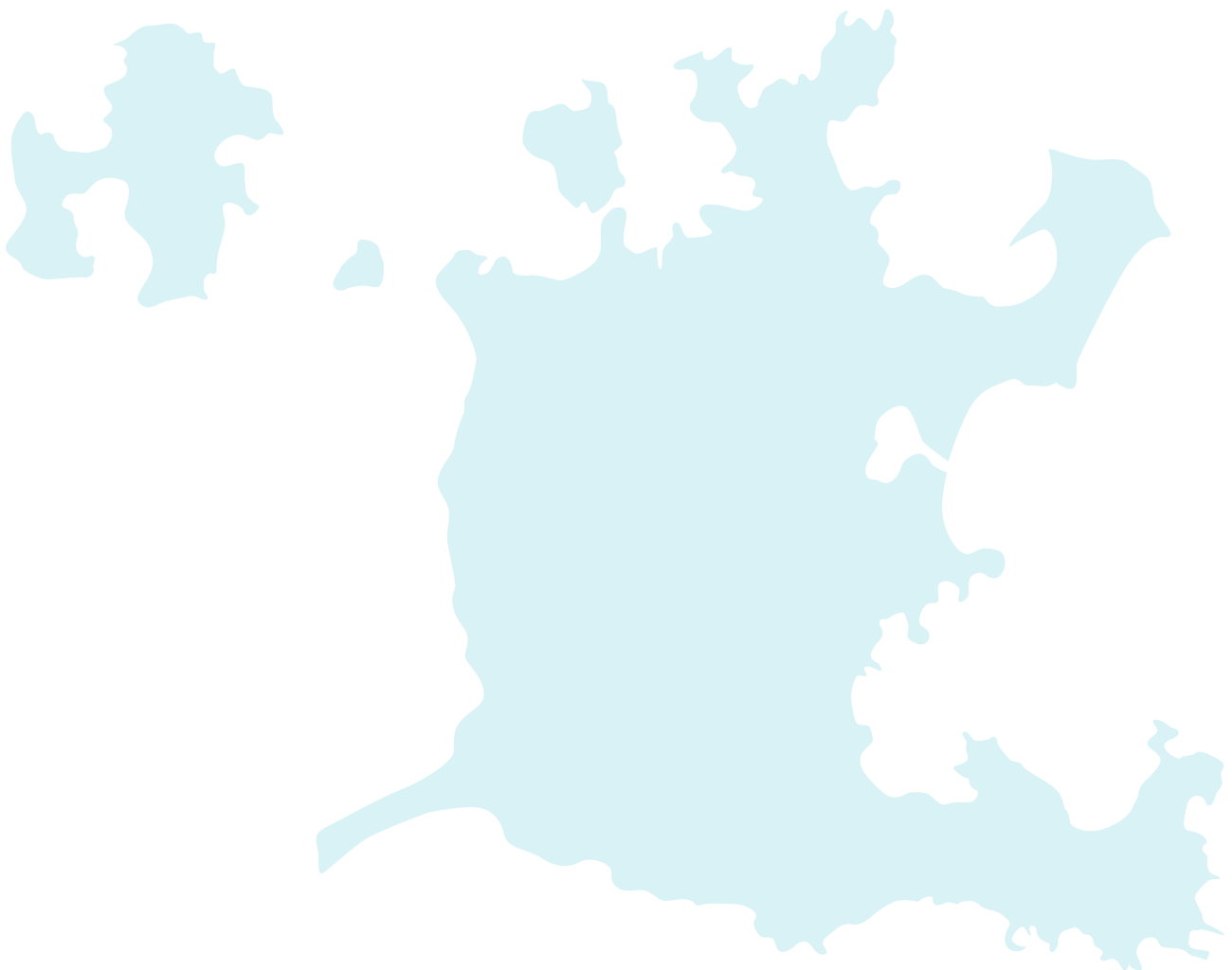
3. LDMA Economic Development

A key objective of the ALC is to enable and assist Indigenous people of the Groote Archipelago to promote economic and community development. In contemplating options for achieving this, and in anticipation of GEMCO mine closure, the Groote Holdings Aboriginal Corporation (GHAC 2022) has been established to give effect to schedule 3.2 of the LDMA which is the Economic Development Implementation Plan. Its mandate is to progress major wealth-generating projects and provide services and opportunities for the social and economic development of all Traditional Owners. Central to its Future Groote Strategy is a Traditional Owner ambition to reduce societal dependence on royalty income and welfare payments and increase opportunities for local engagement in economic activity.

The means identified for achieving this goal is to apply an import substitution model using local labour to deliver services alongside the nurturing and development of cultural enterprises – in effect a two-stream diversified economy with an emphasis on local participation. Labour demand driven by this strategy is anticipated to be substantial with opportunities arising from a diverse range of activities including the delivery and maintenance of municipal services, housing construction and maintenance, health and education services, transport, aquaculture, land and sea management, timber industries, arts & manufacturing, media, and tourism. In planning to maximise the social and economic benefit of these activities for Anindilyakwa people, it is helpful to measure their existing engagement with the local economy and how this has been trending in recent years, especially for different age groups and for men and women.

Labour force status: 2006–2021

The primary source of long-term data on the labour force status of individuals aged 15 years and over is the 5-yearly national census. The 2008 baseline profile used data from the 2006 Census as its key source for this (Australian Government 2009) and subsequent census outputs provide a consistent measure of change since that time through to 2021. This provides data on how many Indigenous people of working-age are employed and unemployed (referred to as the labour force), and how many are in neither of these categories and therefore not in the labour force. In this schema, it should be noted that being employed is defined as having been in a paid job for one hour or more in a reference week.

While the census remains the only regular comprehensive count of these outcomes in the Groote Archipelago, the project also established a cross-check of 2021 Census data by establishing a list of island-based workplaces and engaging a number of Traditional Owners to identify persons employed against this list. Data on local employment were also provided by some of the larger employers, notably the ALC, while annual figures on Community Development Program (CDP) participants engaged by GEBIE were provided by the NIAA. In addition to this, the NTG Department of Trade, Business and Innovation enumerated island-based Indigenous workers as part of its Remote Towns Jobs Profile in 2017 (NTG Department of Trade, Business and Innovation 2018) and this was also used as a guide for benchmarking other data.

As noted above, conventional reporting on labour force outcomes identifies three categories. However, given the nature of the welfare economy in the Groote Archipelago, and the often-sporadic engagement in formal paid employment, it can be difficult to apply

precise boundaries between these categories at any one time. This is not least because the ABS itself has classified individuals differently over time, most notably by shifting participants in what used to be the Community Development Employment Projects (CDEP) scheme from being counted as employed to being counted as either unemployed or not in the labour force. This was due to changes to income support payments involving the introduction of mutual obligations requirements and work for the dole. Since 2011, CDEP/CDP participants have been counted by the census as not employed.

In 2006, three-quarters of Indigenous people recorded as employed were engaged in part-time CDEP activities. Overall, then, only 69 individuals at that time (6% of the population aged 15+) were engaged in (mainstream) employment outside of the scheme. By 2021 this number had risen to 230, representing 19% of the adult population aged 15 and over. This figure was very similar to a count of 221 derived from a survey conducted by Traditional Owners working for the project in 2022. Slightly more males are employed than females (125 vs 105) but males are much more likely to be in full-time jobs (>35 hours per week) as shown in Figure 3.1.

Figure 3.1 *Proportion of employed Indigenous males and females in full-time and part-time work*: Groote Archipelago, 2021*
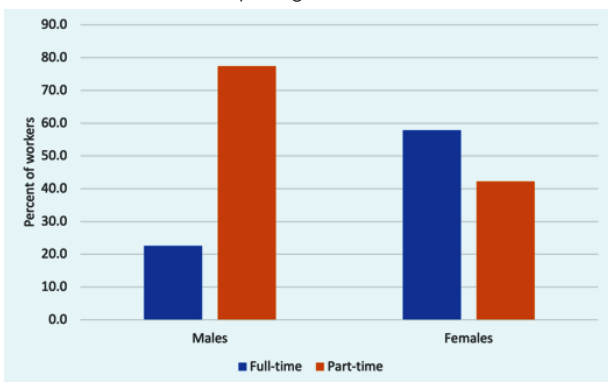
*Excludes hours worked not stated and zero hours
Source: ABS Census of Population and Housing.

This shift over time in the prevalence of mainstream employment is shown in Figure 3.2 as a proportion of each working-age group. In 2006, in the critical young adult age group of 15–29, and in most prime working-age groups, less than 5% of the population was engaged in mainstream employment. By 2021, this outcome had substantially changed with notably higher rates of mainstream employment at all ages but especially among those in the older age groups of 35–59 years, where the employment rate rose above 30%. Even one-third of those aged 65-69 years were employed. As a consequence, there is now a clear age gradient in the prevalence of employment with those in older working-age groups far more likely to be employed than those in younger age groups.

Figure 3.2 *Proportion of Indigenous adults in mainstream employment by age: Groote Archipelago, 2006 and 2021*
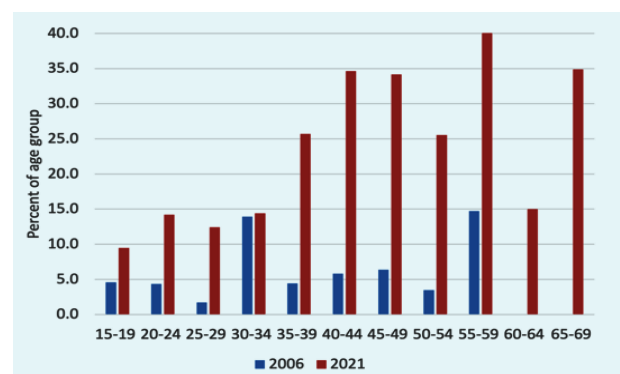
Source: ABS Census of Population and Housing.

This expansion of mainstream employment has been shared equally between men and women (Figure 3.3) with 21% of adult men and 18% of adult women employed in 2021. Once again, the age gradient is evident for both groups, although employment rates continue to rise among males through to age 55-59 with almost half of those in that age-group employed with female rates not far behind – albeit in both cases based on relatively small numbers. Nonetheless, an employment rate among older males approaching 45% is strikingly different from the average of 15% for males aged under 30.

Figure 3.3 *Percent of Indigenous male and female age groups employed: Groote Archipelago, 2021*
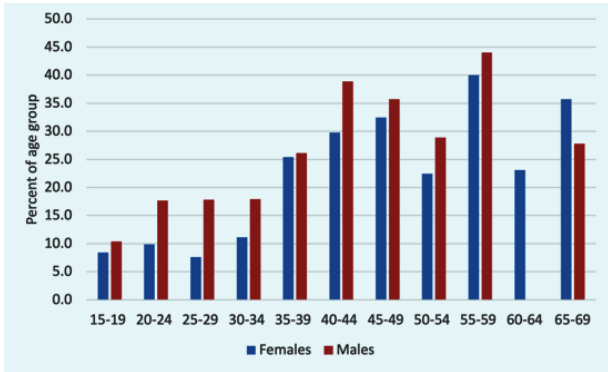
Source: ABS Census of Population and Housing.

Of course, all of this means that the vast majority of adults, at any age, are still not employed. In 2006, much of this slack was taken up by participation in CDEP for wages. With the gradual withdrawal of CDEP since that time, many of those not employed, but eligible for employment (around 520 per annum since 2013), have instead accessed income support as Newstart Allowance (now JobSeeker) or some other social security payment via mutual obligation arrangements under the Remote Jobs and Communities Program (RJCP) and then the Community Development Program (CDP). In terms of labour force status, this means that people in these schemes who reported active job search activities in the period before the census would (presumably) be classified as unemployed. All others would be deemed not in the labour force, along with other adults who were unable to work due to illness or infirmity. Figure 3.4 shows the proportion of different age groups in these categories in 2021, while Figure 3.5 does the same for males and females.

Figure 3.4 *Age distribution of Indigenous adults in the Groote Archipelago, by labour force status, 2021*
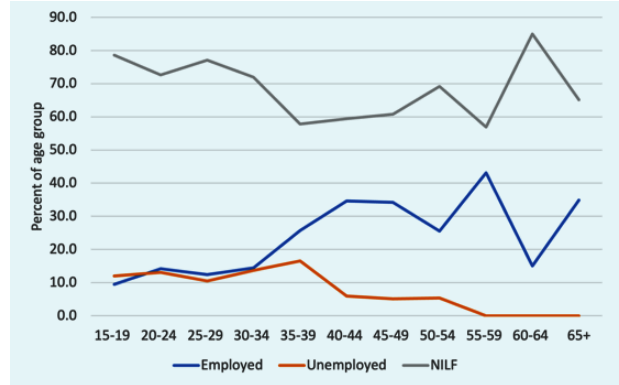
Note: NILF = not in the labour force

Source: ABS Census of Population and Housing.

Figure 3.5 *Age distribution of Indigenous males and females in the Groote Archipelago, by labour force status, 2021*
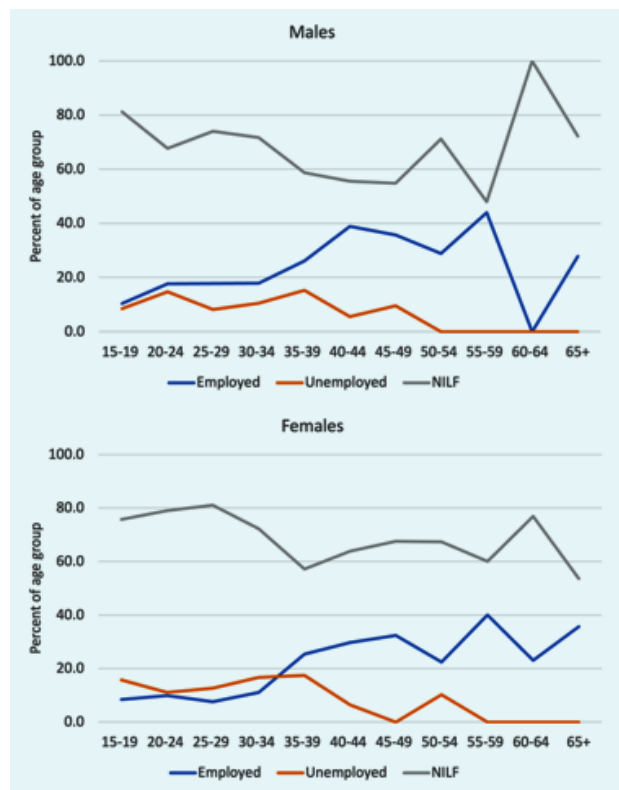
Note: NILF = not in the labour force.

Source: ABS Census of Population and Housing.

The most striking observation is that for all age groups, and for both males and females, the predominant outcome in terms of labour force status is 'not in the labour force', especially at younger adult ages. In 2021, the size of this group, plus those classified as unemployed, amounted to 943 adults – considerably higher than in 2006 if we discount CDEP as employment in that year. This is also far fewer than the 230 counted as employed in 2021 and it means that non-workers in the population currently outnumber workers by a ratio of more than 4:1.

Industry of employment

To profile the workforce of the Groote Archipelago by industry of employment we use census data based on place of enumeration rather than place of usual residence. This is because many of the jobs available in the region are occupied by individuals whose usual place of residence is elsewhere - in effect, they are FIFO jobs. In 2021, out of 885 persons recorded at work in the region at the time of the census (August 9th) only 657 of these were island residents. Equally, while the 885 figure provides a cross-section of the workforce at a point in time, it does not include those who are rostered off and counted elsewhere. Nonetheless, it is a measure of the workforce present at that time and as such it provides a useful indication of available on-island work opportunities. It should be noted that virtually all Indigenous persons recorded by the census as employed in the region were also usual residents and so the complicating factors noted above do not apply to them. Ideally, we would examine change in the composition of employment by industry category over time but this is compromised by uncertainty about which industry categories CDEP participants have been allocated to in census data prior to 2021. We therefore restrict our industry profile to the present day (2021).

Figure 3.6 shows the distribution of Indigenous and non-Indigenous employment in the Archipelago across industry categories in 2021. In both profiles the dominance of mining employment is evident, especially for males and especially for non-Indigenous workers. Almost one-third of all persons in work within the region at the time of the 2021 Census were employed in mining. Having said that, it should be noted that while one quarter of the Indigenous male workers were in mining jobs, only half of these were Traditional Owners. The next major industry of employment, especially for Indigenous workers, was public administration, followed by education and training for Indigenous females and education and health for other females. Construction work was also prominent for both Indigenous and non-Indigenous males, while retail jobs stand out for Indigenous females.

Figure 3.6   *Indigenous and non-Indigenous workforce distribution by industry of employment: Groote Archipelago, 2021*
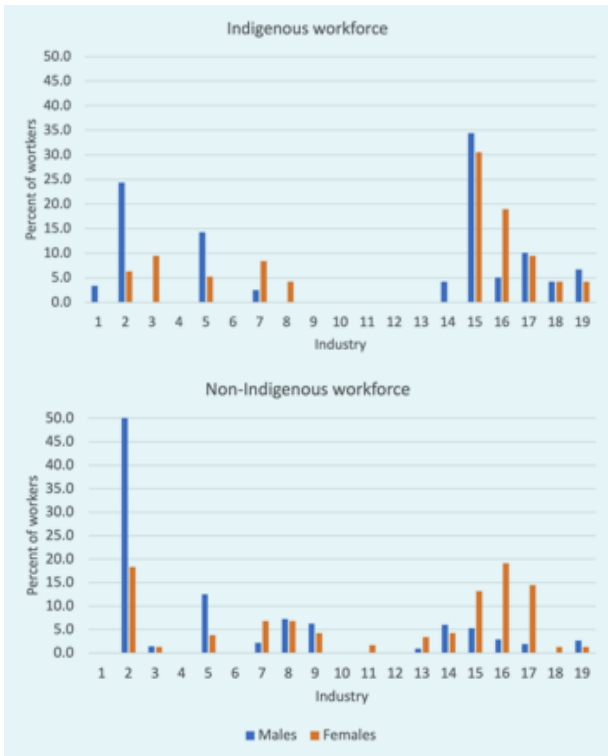
Key: 1. Agriculture, Forestry and Fishing; 2. Mining; 3. Manufacturing; 4. Electricity, gas, water and waste; 5.Construction; 6. Wholesale Trade; 7. Retail Trade; 8. Accommodation and food services; 9. Transport postal and warehousing; 10. Information, media and telecommunications; 11. Financial and Insurance services; 12. Rental, Hiring and Real Estate Services; 13. Professional, Scientific and Technical Services; 14. Administrative and Support Services; 15. Public Administration and Safety; 16. Education and Training; 17. Health Care and Social Assistance. 18. Arts and Recreation Services; 19. Other Services.

Source: ABS Census of Population and Housing.

The concentration and significance of Indigenous employment in particular Archipelago industries is further emphasised if we consider the Indigenous share of the total workforce in each industry (Figure 3.7). Agriculture has been omitted from this chart since the 4 Indigenous workers recorded in that industry constitute the sum total and this distorts the visual presentation of overall results. In 2021, as many as five industries had a majority, or close to a majority, Indigenous

workforce – arts and recreation services, other services, public administration, manufacturing and retail. Education and health care had the next highest Indigenous share accounting for one third of workers, while one-fifth of construction jobs were held by Indigenous people. Industries where Indigenous workers were notably absent included utilities, accommodation and transport.

Figure 3.7   *Indigenous percent of total workforce, by industry of employment: Groote Archipelago, 2021*
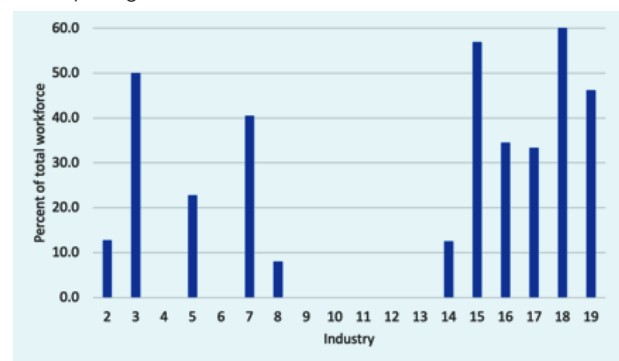
Key: 2. Mining; 3. Manufacturing; 4. Electricity, gas, water and waste; 5.Construction; 6. Wholesale Trade; 7. Retail Trade; 8. Accommodation and food services; 9. Transport postal and warehousing; 10. Information, media and telecommunications; 11. Financial and Insurance services; 12. Rental, Hiring and Real Estate Services; 13. Professional, Scientific and Technical Services; 14. Administrative and Support Services; 15. Public Administration and Safety; 16. Education and Training; 17. Health Care and Social Assistance. 18. Arts and Recreation Services; 19. Other Services.

Source: ABS Census of Population and Housing.

Occupation

The same issues regarding data availability outlined above for industry of employment apply also to data on occupations and the same solution to this problem is applied.

Figure 3.8 shows the distribution of Indigenous and non-Indigenous employment in the Archipelago across occupational categories in 2021. In both profiles the gendered nature of workforce occupations is apparent. Both Indigenous and non-Indigenous female workers are more likely to be in professional,

clerical and administrative, and community and personal service positions, whereas men tend to be technicians and trades workers, machinery operators, drivers and labourers.

Figure 3.8   *Indigenous and non-Indigenous workforce distribution by occupation of employment: Groote Archipelago, 2021*
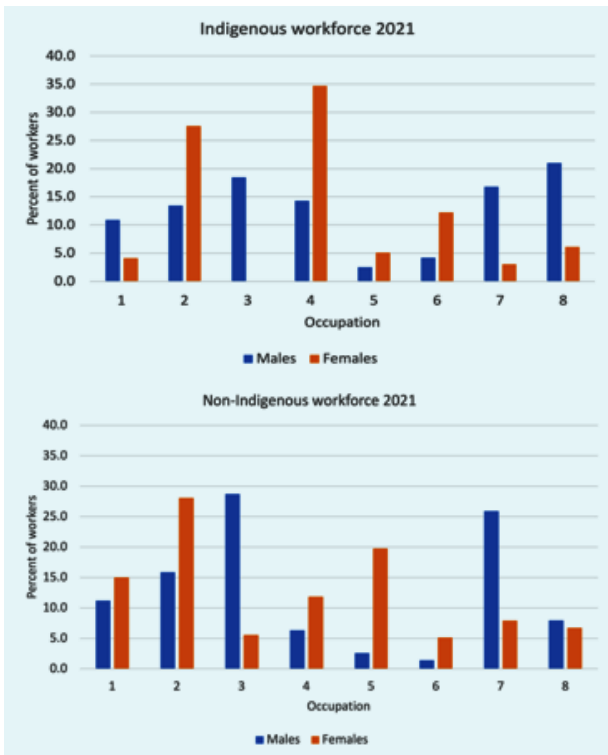
Key: 1. Managers; 2. Professionals; 3. Technicians and Trades Workers; 4. Community and Personal Service Workers; 5. Clerical and Administrative Workers; 6. Sales Workers; 7. Machinery Operators and Drivers; 8. Labourers.

Source: ABS Census of Population and Housing.

Once again, these particular workforce distributions are reflected in the Indigenous share of employment by occupation shown in Figure 3.9. The vast majority of retail trade workers are Indigenous, although it has to be said that this refers to only 17 individuals. Perhaps more significant is the concentration of Indigenous employment as community and personal service workers, and more notable is the relative lack of Indigenous employment in clerical and administrative jobs. Given the industry composition of employment, the

low Indigenous share of technical and trades jobs also stands out as does the lack of representation in machinery operator and driver occupations.

Figure 3.9   *Indigenous percent of total workforce by occupation of employment: Groote Archipelago, 2021*
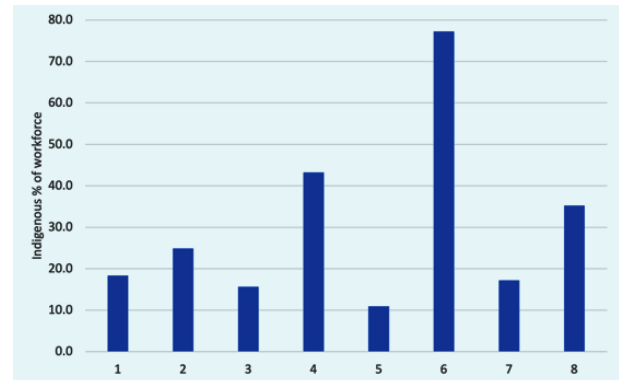
Key: 1. Managers; 2. Professionals; 3. Technicians and Trades Workers; 4. Community and Personal Service Workers; 5. Clerical and Administrative Workers; 6. Sales Workers; 7. Machinery Operators and Drivers; 8. Labourers.

Source: ABS Census of Population and Housing.

Main employers

Anindilyakwa Land Council

The main source of Indigenous employment growth in recent years, especially for Traditional Owners, has been the expansion of work opportunities created by the various service and development arms of the ALC. Figure 3.10 outlines the growth in Traditional Owner employment in Land Council operations since 2003. After a slow start, numbers increased to a peak of almost 40 in 2013, then fell back to around 15 before rising sharply after 2017 to reach a total of 83 in 2019. Presently (in 2022), 77 Traditional Owners are employed by the ALC.

Figure 3.10 *Traditional owners employed by ALC: Groote Archipelago, 2003–2022*
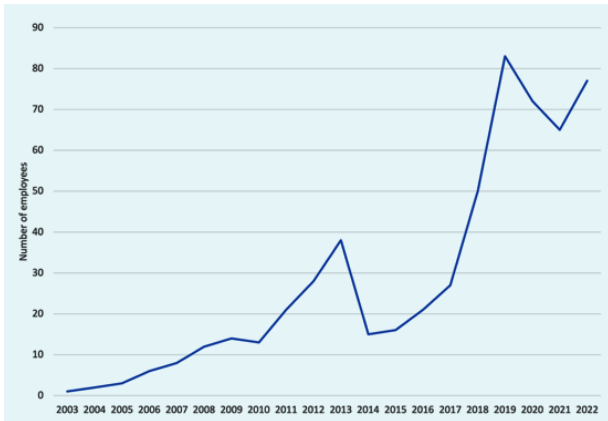
Source: ALC.

Figure 3.11 disaggregates these Traditional Owner employee numbers into males and females. Over the past decade, males have consistently outnumbered females but this tendency has increased since 2018 with males now accounting for almost two-thirds of those currently employed (61%).

Figure 3.11 *Male and female Traditional Owners employed by ALC: Groote Archipelago, 2003–2022*
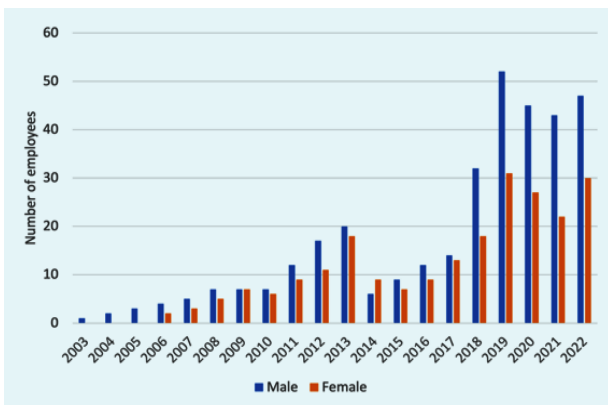
Source: ALC.

A key driver of this recent growth in employment has been the expansion of ALC's Preserving Culture programs, the Ranger group and the CSP (Figure 3.12). More than half of the local workforce is now in one or other of the Preserving Culture programs including the Senior Men's Shed, Anindilyakwa Arts and the Anindilyakwa Music Program. As might be expected, there is currently less representation of Traditional Owners in the more executive and technical areas of ALC's operation.

Figure 3.12 *Traditional Owners employed by ALC department: Groote Archipelago, 2003–2022*
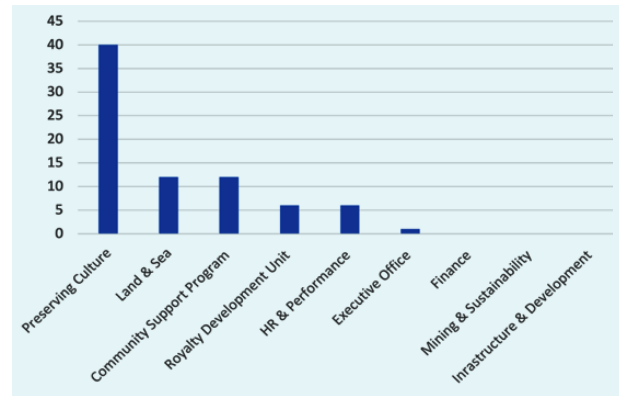
Source: ALC.

In terms of the size and breadth of workforce engagement, Anindilyakwa Arts (which is a part of the ALC's Preserving Culture program) is by far the most prominent enterprise, albeit built around mostly short-term intermittent participation. It offers a diverse arts program focused on engagement with the community and artists across the Archipelago within art spaces in Umbakumba, Angurugu and Milyakburra, as well as the Men's Art space in Angurugu and outreach to satellite communities. There is also a retail gallery in Alyangula. It is stimulating a revitalisation of traditional practices for women artists such as pandanas weaving and string bag making, as well as carving and painting by men.

The Art Centre employs a total of 10 local people as Arts Workers, eight women and two men mostly on part-time contracts ranging from 20–30 hours per week. Beyond this, between July 2018 and June 2021, the Art Centre registered a total of 406 artists on its books, although only one-quarter of these (133 or 28%) produced any artworks for sale during that period. Three-quarters of these producers (73%) were female. The vast majority of these artists are only active sporadically and only a fraction (27) are more fully engaged. All but two of these are women.

Aboriginal Corporations

Between 1994, when the first island-based Aboriginal Corporation was established, and 2021, a total of 35 corporations located in the Groote Archipelago have been registered by the Office of the Registrar of Aboriginal Corporations (ORIC) under the *Corporations (Aboriginal and Torres Strait Islander) Act 2006*. Over time, six of these corporations have been de-registered and 29 were still operating in 2021. As shown in Figure 3.13, there has been a steady annual growth in establishment of these entities since the mid 1990s, though the number has more than doubled since 2014.

Figure 3.13 *Growth in ORIC-registered corporations: Groote Archipelago, 1994−2021*
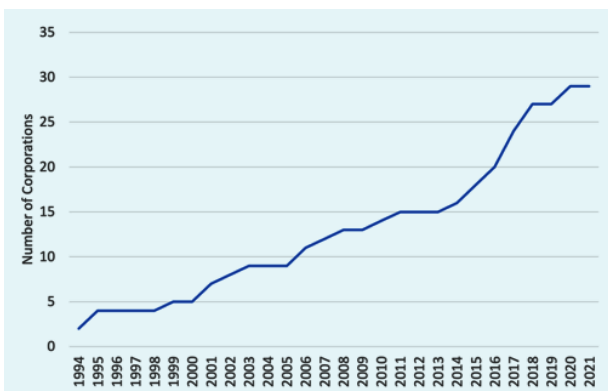
Source: ORIC, Canberra.

The size of corporations is classified by ORIC according to their consolidated gross operating income. Small corporations have an operating income of less than $100,000, medium-sized corporations have incomes between $100,000 and $5 million, and large corporations are those with operating incomes of more than $5 million. Against these criteria, there are currently three large Aboriginal Corporations in the Groote Archipelago: Aminjarrinja Enterprises which is involved in employment and training (mostly construction), retail, accommodation, education and community services; Groote Eylandt & Bickerton Island Eylandt Enterprises (GEBIE) which is involved in the same range of activities as well as land management; and Warningakalinga, which

essentially operates the Angurugu Community Store. In 2021, GEBIE reported a total of 136 employees, Aminjarrinja 64, and Warninkalinga 12 (register.oric.gov.au). Of the remaining corporations, 11 are of medium size and 13 are small size. Between them, these smaller corporations reported a total of 67 employees.

While Aboriginal Corporations therefore employ a substantial overall workforce, it is less clear over time just how many of their employees are Indigenous, let alone Traditional Owners. According to GEBIE, as of May 2022, 29% of its 135 staff were Indigenous and most of these (30) were Anindilyakwa, and all were male working in GEBIE Civil and Construction. This number was reportedly down on recent years because of the introduction of voluntary CDP activities, as opposed to compulsory work-for-the-dole arrangements, which has resulted in fewer people attending activities and applying for jobs. Also, in May 2022, Aminjarrinja Enterprises employed 20 full-time local workers including 13 males ranging in age from 27 to 57 years, and seven females ranging in age from 28 to 58 years. All male employees were labourers in construction work, while all of the females were employed by the Remote Schools Attendance Strategy (RSAS). As for other Corporations, some of these have spawned employment in businesses such as Bush Medijina which employs seven local women and, in turn, supports the Groote Eylandt and Milyakburra Strong Women's Groups with a focus on female employment and empowerment.

As for GEMCO operations, employment of local workers has been highly variable over the years. In the early days of mining in the 1960s, up to one-quarter of the workforce consisted of local people working across the full range of occupations including as plant operators, on bulldozers, front-end loaders, mobile cranes, truck drivers, mechanical trades assistants, first aid assistants, sampler's assistants, mess hands and general labourers (McKenzie 1966:

253). However, by the 1980s numbers had fallen considerably as local people preferred to seek employment in the emerging community services industry (Cousins and Nieuwenhuysen 1984: 76–79). Overall Indigenous employment picked up again in the early 2000s and reached a record number of 75 by the end of 2017; however, only 36 of these employees (48%) were Anindilyakwa people, a much lower proportion than in 2001 (76%) (Rogers et al. 2018: 71). As at May 2022, GEMCO reported a total of 19 Traditional Owners working in company operations out of a total permanent workforce of approximately 1,100 including contractors. Most of these local workers were male and aged between 30 and 49 (Table 3.1). Over the entire 10-year period prior to this, 2011–2021, a cumulative total of 95 individual Traditional Owners had been employed. Based on the current point-in-time numbers, this suggests a high level of turnover. Very few of these (only 6) have been engaged as trainees/apprentices during that time with only four completions.

Table 3.1 *Anindilyakwa Traditional Owners employed at GEMCO operations, May 2022*

Age group	Males	Females	Total
15–29	3	1	4
30–49	10	4	14
50+	1	0	1
Total	14	5	19

Source: GEMCO.

In recent years, almost all these local workers have been engaged by GEMCO's Rehabilitation, Mine Services and Legacy (RMSL) Team to perform activities such as seed picking, planting, weed management, tree management (arborist skills), carpentry, dumpster truck operation, and green waste removal. Indirect employment of local workers is also generated by GEMCO spending on local Indigenous businesses, although no estimates of this employment impact are available.

East Arnhem Regional Council is another prominent employer in the Archipelago. In 2021, they employed a total of 53 workers – 22 in Angurugu, 11 in Umbakumba and 10 in Milyakburra. In mid 2022, three-quarters of the Regional Council workforce (40) were local Traditional Owners working mostly in Aged Care and Disability Services, Children and Library Services, Community Night Patrol, Youth, Sport and Recreation Services and Municipal Services.

Community Development Program

In July 2013, Job Services Australia (JSA), Disability Employment Services (DES), the CDEP program and the Indigenous Employment Program (IEP) transitioned to the new RJCP. During this transition and beyond, CDEP participants remained actively involved in community work activities until they were absorbed into CDP (essentially a remote area work-for-the-dole program) in 2015. In turn, CDP was abolished in 2021 following a ruling under the *Racial Discrimination Act 1975* (Cth), and while new arrangements are yet to be announced (a new Commonwealth remote jobs program is due to be announced in 2023) this may provide an opportunity for greater structural alignment between ALC economic development plans and the needs of most adults in the Archipelago for training and job readiness.

As mentioned, the average annual caseload for RJCP/CDP over the past decade has been around 500 participants. However, there has been substantial quarterly variation around this figure as well as a substantial decline between the beginning of 2017 and mid-way through 2018 followed by a rapid rise to reach the current level of almost 650 (Figure 3.14). It is tempting to associate this decline with the expansion of mainstream Indigenous employment, while the subsequent rise may reflect the economic impact of Covid-19. However, it is difficult to gather evidence for any cause or effect. All that can be noted is

that caseloads have remained consistently high considering that the gross number of jobs in the Archipelago over this period has been fairly steady at around 1,330, with somewhere in the region of 130 job vacancies at any one time (NTG Department of Trade, Business and Innovation 2018). Of course, while the occupational nature and level of many of these jobs places them beyond the reach of most CDP participants, nonetheless the prospect of entry-level opportunity has been ever-present. Even then, there can be substantial hurdles to overcome as illustrated in Table 3.2 that lists minimum requirements for GEMCO job applications – many of these minimum requirements would also apply to jobs more broadly.

Figure 3.14 *RJCP and CDP quarterly participants (caseload), 2013–2021*

Source: NIAA.

Table 3.2 *Minimum and beneficial requirements for GEMCO South32 job applications*

Minimum requirements	Beneficial tickets/ licences
Transport (or ability to get to worksite)	Light/Medium/Heavy Rigid Vehicle Licence
Mobile phone	Heavy/Multi Combination Vehicle Licence
Email account	High Risk Forklift Licence
Seek.com (Profile)	Grader/Dozer/Loader/ Excavator/Haul Pack Ticket
South32 website (Profile)	
Cover letter	
Resume (updated)	
Driver's licence	
Drug test	
Medical assessment	
Proof of vaccination	
Whitecard (safety card)	
First aid certificate	

Source: GEMCO South32.

This point is made because a key aim of CDP has been to ensure that Indigenous jobseekers are ready and available to meet the needs of local employers by engaging in work-like activities and through placements in real work settings, ideally with a view to permanent placement. Incentive funding is provided to employers to mentor CDP job seekers for up to 13 or 26 weeks in these work experience placements during which time job seekers remain on income support. To gain some sense of performance here, Figure 3.15 shows the number of job placements secured in each quarter between 2018 and 2021. These same figures are then expressed as a proportion of the CDP caseload for the same period.

Figure 3.15 *Number of CDP quarterly job placements and placements as a percent of participants: Groote Archipelago, 2018–2021*
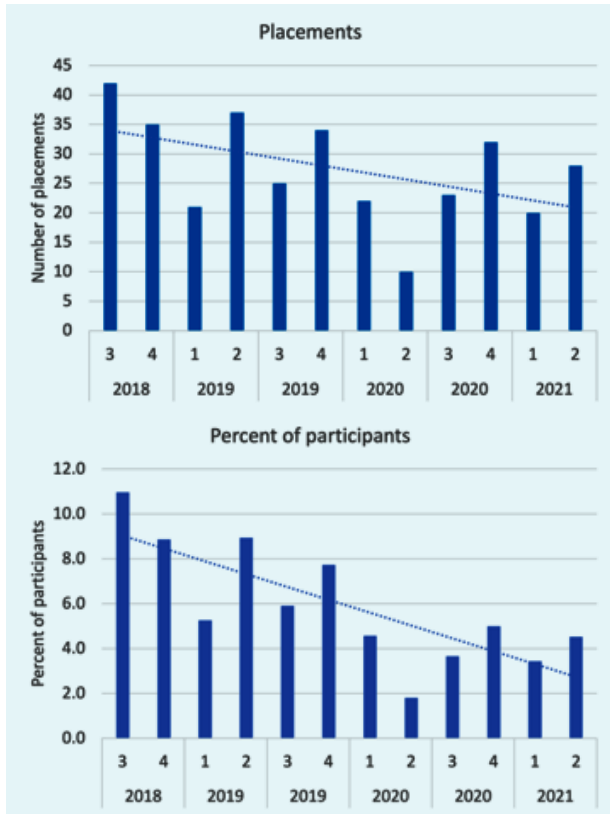
Source: NIAA.

It would appear that job placements gradually declined from around 40 per quarter in 2018 to around 25 per quarter by 2021. This represents a very low proportion of the overall caseload. At best, at the beginning of 2018, it accounted for 11% of the caseload, but this level had fallen to just 4% by 2021. As for the success of these placements, this is measured by whether individuals are still engaged at work after 13 weeks and then 26 weeks with an employer. Unfortunately, all such outcomes reported by NIAA involved less than 20 participants and so the actual number is not revealed. What we can say, though, is that very few CDP participants have been achieving successful placement outcomes in recent times, certainly when compared to the overall size of the CDP caseload.

For some insight into the characteristics of CDP participants, NIAA provided data on their age and gender at the end of 2016 and 2020. Figure 3.16 shows the number of participants in three broad age groups and reveals that numbers increased over this period for both males and females at all ages, but especially among those aged 50 and over. Even though the adult population was greater in 2020, Figure 3.17 shows that both male and female CDP participants increased as a proportion of their working-age groups since 2016. This was especially so among males with almost two-thirds of males aged 30–49 years now in CDP. Overall, CDP participants now account for at least half of all adults regardless of age or gender.

Figure 3.16 *CDP participants by age and gender: Groote Archipelago, 2016 and 2020*
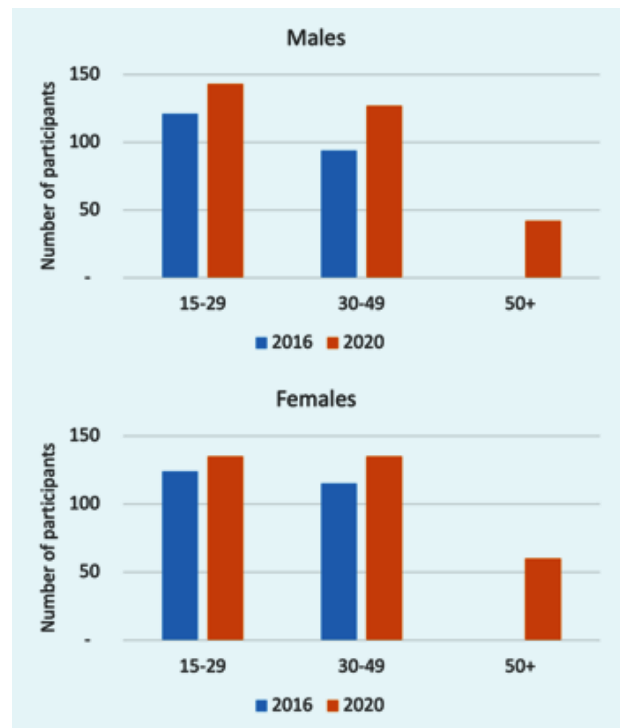
Source: NIAA.

Figure 3.17 *CDP participants as a percent of working-age groups: Groote Archipelago, 2016 and 2020*
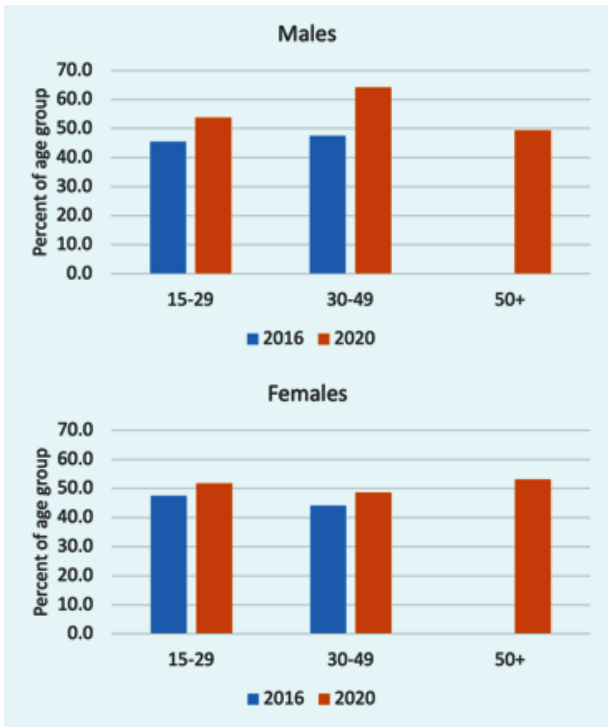
Source: NIAA.

Dependency ratios

Data on labour force status can be combined with age structure to produce a range of age and economic dependency ratios. These ratios are devised within a western economic paradigm to provide a crude but effective summary of the numbers of working-age and economically-active members of a

population relative to those who may largely depend on them for economic (financial) resources. These are shown in Table 3.3 for the Indigenous population of the Archipelago in 2006 and 2021. Other, more culturally-defined interpretations of the balance between age groups and the meaning of 'economically-active' may be applied to such ratios but the methodological means of doing so remain to be fully developed, not just for Anindilyakwa, but anywhere for that matter (Morphy 2016).

The childhood dependency ratio is the simplest of these measures. It expresses the number of children in the population (aged 0–14 years) as a ratio of adults (15+ years). A ratio of 1.0 would indicate that the size of the two age groups is the same and that there is one child per adult. A figure greater than 1.0 indicates more than one child to each adult; less than 1.0 indicates fewer than one child to each adult. In 2001, the childhood dependency ratio was 0.54 and this fell to 0.47 by 2011 and 0.27 in 2021 reflecting the gradual decline in the number of children in the population due to demographic ageing as we have seen. Just by way of comparison to show the historic extent of this ageing, the Northern Territory Administrator's Report for 1953–55 reported a childhood dependency ratio of 0.98 for Angurugu and 1.16 for Umbakumba (Commonwealth of Australia 1956).

Table 3.3 *Dependency ratios*

	2001	2006	2011	2016	2021
Childhood dependency	0.54	0.51	0.47	0.37	0.27
Childhood burden	7.5	7.0	n/d	2.3	1.5
Economic burden	15.6	15.4	n/d	6.3	5.8

Source: Calculated from ABS Census of Population and Housing.

Of course, childhood dependency provides a very limited measure of economic dependency. More refined measures attempt to incorporate some indication of the ability of working-age adults to generate income that might be shared with others. The childhood burden, for example, is defined as the ratio of the number of children to the number of employed persons. Once again, a figure of 1.0 indicates parity. In 2001, there were 7.5 children to each person employed outside CDEP; in 2006 this was more or less the same, but by 2016 it had fallen to 2.3 and in 2021 it was lower still at 1.5.

Finally, the economic burden is a ratio of the number of children and economically inactive persons (including those unemployed) to employed persons. This has declined substantially since 2001 when there were 15 persons who were not economically-active for each employed person (if we discount CDEP) and who may have been dependent on each employed person for at least some of their income. In 2016 the ratio more than halved to 6.3. By 2021, it had fallen to 5.8.

From a regional planning perspective, then, the age profile of the population remains a key variable when set against the relatively poor labour force status of adults. Having said that, a clear reduction in economic burden is evident over the past 20 years if we discount CDEP employment in the earlier calculations. This can be interpreted as a significant outcome in terms of demographic dividend as it can be argued that the relative expansion of working-age numbers combined with growth in mainstream employment has had a positive economic effect. However, if employment numbers do not continue to expand, and if the population at older ages continues to increase in line with projections, then this burden will rise again.

The job ahead

To the extent that the ALC might set an employment target (e.g., maintaining the

existing employment rate of 19%, or doubling the employment rate to 38% by 2036), it is possible to use the projections of working-age population to provide some idea of the likely scale of job creation that this would require. Let's say, for example, that the ambition is to double the existing employment rate to 38% by 2036. Table 3.4 shows how many extra people will need to be employed over and above those already employed in order to achieve this.

Table 3.4 *Number of extra persons in employment required in 2036 to maintain the current employment rate or double it*

Employment rate	Base employment (2021)	Total employed to achieve this rate in 2036	Extra persons employed
Current rate (19%)	230	244	14
Double current rate (38%)	230	489	259

Note: Based on a projected adult population in 2036 of 1,284

Because the population of working-age will be slightly higher in 2036 due to ageing, even to maintain the current employment rate of 19% will require more people to be in work, although the projected additional number is low at just 14. Given the level and composition of new economic activity planned for the Archipelago in the years ahead, there appears no doubt, therefore, that the employment rate by 2036 will be considerably higher than today. However, if the aim were to double the present rate, it would require an extra 259 persons to be employed – more than the number currently employed. This is just one example of the type of scenario-setting that the projections provide.

Income

A key indicator of economic wellbeing for residents of the Groote Archipelago is their

level of personal and household income. This is an essential material resource required for the acquisition of many socially-defined necessities (McLachlan et al. 2013). A lack of adequate income to maintain acceptable standards of living provides one means by which governments estimate the need for economic support.

The most regular, accessible, and comprehensive data on income in the Groote Archipelago are those that are reported by individuals to the ABS census. They refer to the total of all income (gross income) 'usually received'. Options are provided on the census form to interpret this as amounts 'per week' or 'per year'. Gross income is the sum of income received from all sources before any deductions such as income tax. In theory it is meant to include wages, salaries, business income, rents received, royalties, dividends, interest, income from superannuation, child support, worker's compensation and government pensions and allowances. In practice, there is a tendency for incomes to be understated in the census although the census-derived income distribution for the Australian population overall is largely consistent with that obtained from ABS income surveys.

Accurate population data on income levels in the economic setting of the Groote Archipelago are notoriously difficult to establish. For one thing, reference to 'usual income' assumes a consistent flow of income to individuals and households whereas this is often intermittent. What might constitute 'usual weekly' income in many households in the Groote Archipelago is difficult to determine to say nothing about problems of defining the social composition of such households in the first place (Morphy 2016: 109). As economic units these households are invariably linked entities connecting extended family groupings, a reality that the census methodology is not designed to capture. Recalling annual income is also problematic in a largely non-salaried

population. On the input side, there is the likelihood of intermittent income or windfall gains from sources such as art sales, sitting fees, and the web of rent and royalty payments. This may combine with debits, for example due to loss of employment or variation to welfare payments, to create a highly complex picture even over a short space of time.

Certainly, the ABS recommends caution when using census income data especially at the small area level and in situations, such as in the Groote Archipelago, where incomes are often imputed (ABS 2016). For this reason, census income data are best used in a relative context to provide a sense of scale rather than as a measure of exact amounts – are income levels high or low, how do they change over time? How is income distributed across the population? There is also the opportunity to examine income distribution according to select population characteristics. For example, how does income differ between those in employment and those who are not? To address these questions, we take a long-term perspective by comparing census results from 2006 with those from 2021. The findings are instructive.

With the above caveats in mind, Table 3.5 shows the median and average personal and household incomes based on levels reported by Indigenous residents of the Groote Archipelago in 2006 and 2021, with 2006 figures also adjusted for inflation and expressed in 2021 dollars. This shows that actual median personal income was lower in 2006 than in 2021 but when adjusted for the Consumer Price Index (CPI) it was similar. The 2006 household median, on the other hand, was the same actual amount in 2006 as in 2021, but noticeably higher in 2006 when adjusted for CPI. Similar outcomes are observed for average incomes. This may seem surprising given the surge in local economic activity over the past 15 years. If we turn to calculations of gross income, however, the results are quite different.

Table 3.5 *Median and average personal and household weekly incomes reported by Indigenous residents of the Groote Archipelago, 2006 and 2021*

Income	2006 (actual)	2006 (CPI adjusted)*	2021 (actual)
Personal median	$206	$286	$245
Household median	$857	$1,191	$856
Personal average	$242	$336	$341
Household average	$1,018	$1,415	$1,197

* Expressed in 2021 dollars using Reserve Bank of Australia Inflation Calculator.

Source: ABS Census of Population and Housing.

Table 3.6 shows the gross amount of personal weekly and annual income for all Indigenous residents in 2006 and 2021, again with 2006 figures adjusted for CPI. Gross personal income in 2006 was much lower than that reported in 2021 both in actual terms ($11 million compared to $20 million) and in real terms ($15 million compared to $20 million).

Table 3.6 *Total gross personal income reported by Indigenous residents of the Groote Archipelago, 2006 and 2021*

Gross personal income	2006 (actual)	2006 (CPI adjusted)*	2021 (actual)
Weekly	$206,925	$287,600	$389,275
Annual	$10,760,120	$14,955,221	$20,242,300

* Expressed in 2021 dollars using Reserve Bank of Australia Inflation Calculator.

Source: ABS Census of Population and Housing.

All of this indicates that the overall gross income available to individuals and households in the Archipelago has increased substantially in real terms over the past 15 years, by as much as 35%, at the same time as which there has been effectively no change in median income. In effect, there has been a spreading out of individuals and households across income categories, especially at the upper end of the distribution, leading to an increased concentration of income in relatively few hands. In 2006, as much as 24% of gross personal income was held by just 7% of adults. By 2021, this same proportion of adults accounted for 32% of income. In 2006, just under 20% of households accounted for 31% of gross household income. By 2021, this income proportion had increased to as much as 52%. One key to understanding this growing inequality is to examine change in the distribution of income according to labour force status.

Table 3.7 shows the annual gross personal income reported in 2006 and 2021 according to whether individuals were employed or not. In 2021, gross income reported by those in employment was 46% higher in real terms than in 2006. On the other hand, over the same period, income reported by those not employed only increased in real terms by 16%. Consequently, the share of total income accruing those in employment rose from 25% in 2006 to 45% in 2021.

The point to note here is that incomes from wage employment are typically much higher than income from pensions, and while the latter are tied to inflation, Newstart Allowance has remained more or less the same in real terms and has been consistently well below the national minimum wage. As we have seen in Figure 3.14, numbers in CDP who are reliant on Newstart Allowance (now JobSeeker) and other income support payments have increased over the past decade from around 500 to almost 650. This, combined with more employment overall, and more in full-time and higher paid jobs, has resulted in a greater share of community income accruing to those in employment. Just as one example of the expansion of income from employment, the ALC paid out $1.3 million in salaries in 2012/13

to Traditional Owner employees (Figure 3.8). By 2021/22, this had risen to $3.4 million, an increase in real terms of over 120% (Figure 3.18) with annual average salaries ranging between $44,155 and $52,380. For much of that same period the average amount paid to persons on Newstart Allowance remained at around $570 per fortnight except for 6 months during 2020 when this was doubled by the Coronavirus supplement.

Table 3.7 *Total annual gross and average personal income reported by Indigenous residents of the Groote Archipelago who were employed/ not employed, 2006 and 2021*

Employment status	2006 (actual)	2006 (CPI adjusted)*	2021 (actual)
Employed	$2,243,800	$5,875,835	$8,760,700
Not employed	$6,451,900	$8,967,334	$10,712,000
Total	$8,695,700	$13,529,598	$19,472,700
Employed average	$31,163	$43,312	$38,090
Not employed average	$8,973	$12,471	$11,359
Employed persons % of gross income	25%	25%	45%

*Expressed in 2021 dollars using Reserve Bank of Australia Inflation Calculator.

Note: Figures in this table do not match those in Table 3.6 because they exclude persons who did not state their labour force status

Source: ABS Census of Population and Housing.

Figure 3.18 *Wages paid to Traditional Owners by the Anindilyakwa Land Council: 2012/13 to 2021/22*
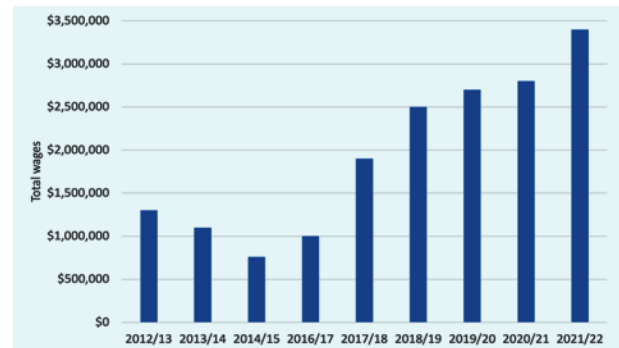
Source: Anindilyakwa Land Council.

There are other factors underlying the rise in overall income. Most notable is the substantial increase in royalty and rent payments to Traditional Owners. In 2019–2020, 9.6% of Statutory Royalty Equivalents were paid as direct deposits into Traditional Owners' accounts, and another 4.8% was provided to Traditional Owners via the Royalty Shoppa card system or similar non-cash methods. These percentages change over time because royalty equivalents fluctuate and the calculation of amounts due and to whom is subject to a variable web of statutory and negotiated outcomes. Data provided by the ALC indicate a total disbursement of $9.3 million in royalty payments in 2021. In addition, an amount of $1.4 million in rental monies was distributed in 2011 and this doubled to $2.8 million by 2021. While individual rent amounts can differ by clan group, according to who is directly affected by mining and other activity, there seems to be no doubt that the gross transfer of income from the use of Anindilyakwa land has increased substantially in real terms since the base year of 2006.

A further example of an income stream from the cultural economy is provided by Anindilyakwa Arts. As mentioned, apart from employing 10 art workers, Anindilyakwa Arts has as many as 406 artists on its books. That represents as much as one-third of the adult population. Admittedly, most of these

artists are low volume producers who bring works to sell at the gallery to 'top up' their income streams and/or Centrelink payments. Often, this is a form of target earning to fund contingencies as they arise such as a need to travel to Darwin or make a purchase. Others, however, say between 20 and 30 artists, consistently sell to the gallery while a handful produce such volume as to make substantial income from artworks alone (Figure 3.19). Artists are paid as soon as their artworks are priced meaning they are not consigned and do not rely on the retail sale for payment. Altogether, the financial scope of this component of the Anindliyakwa cultural economy is currently limited with the gross amount paid to artists during Financial Year 2021/22 totalling just $110,000. However, these are early days and it is expected that this amount will increase substantially as art programs expand and artist output increases.

Figure 3.19   *Number of Anindilyakwa artists and artworks produced: Anindilyakwa Arts, 2018–2021*
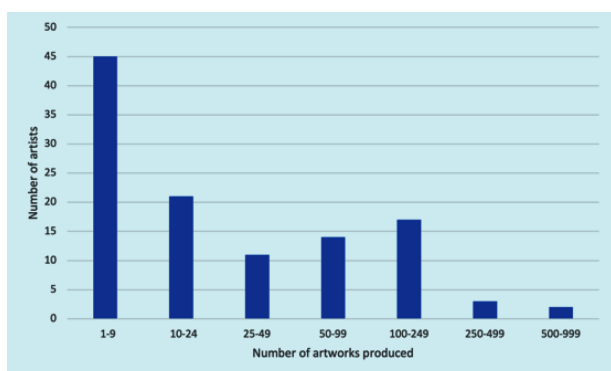
Source: Anindilyakwa Arts.

Income support

Despite these sources of income growth and opportunity, it remains the case that to meet their cash needs most individuals and households in the Groote Archipelago are still overly dependent on transfer payments from the Commonwealth government. Table 3.8 shows the number of Indigenous recipients of Centrelink allowances, pensions and income support payments who had a usual residence address in the Groote Archipelago in the fortnight closest to June 30 in each year since 2016. As such, these numbers represent a point in time and do not necessarily translate into annual figures. Nor can they be summed to produce a total client figure because of some overlap between categories especially in respect of Health Care Cards. Nonetheless, they do provide a useful measure of the size of the Centrelink clientele and their distribution across support categories.

Table 3.8 *Number of Indigenous recipients of Centrelink allowances, pensions and payments: Groote Archipelago, 2016-2021[a]*

Centrelink allowance, pension or payment	2016	2017	2018	2019	2020	2021
Age Pension	27	30	33	35	36	35
Carer Allowance	37	35	33	39	33	33
Carer Payment	34	27	28	32	28	28
Disability Support Pension	146	130	126	118	119	113
Health Care Card	471	492	453	471	594	617
Newstart Allowance[b]	236	229	256	291	466	405
Parenting Payment Partnered	72	70	75	72	70	71
Parenting Payment Single	21	24	26	21	21	23
Youth Allowance (other)	35	41	40	51	80	73

a. As at fortnight closest to June 30 each year

b. Jobseeker payment since 2020

Source: Services Australia.

To the extent that support payments are designed to address some measure of financial need or hardship within the community, it is instructive to use these data to consider whether such hardship across the population has reduced since 2016. All the indications from Table 3.8 are that the level of income support and concession has risen in recent years, except in regard to disability payments. The greatest rise has been in Newstart and Youth Allowance recipients with a notable increase in 2020 following the shift from Newstart to Jobseeker payments and the worsening economic climate during COVID lockdown. This also mirrors the rise in CDP caseload that has already been noted in Figure 3.13. A key indicator is the rise in eligibility for Health Care Cards since these are issued automatically upon receipt of the range of support payments for those with low incomes.

As for the contribution of these government transfer payments to the regional economy, Table 3.9 shows the annual dollar amounts (in $millions) distributed against each category in 2016 and 2021, as well as the total amount of disbursement accumulated over the five-year period 2016 to 2021. In 2016, a total of $14.2 million was distributed via Centrelink to Indigenous residents of the region. More than two-thirds of this amount was allocated for Newstart Allowance and Disability Support Pensions. By 2021, total disbursements had increased to $17.6 million, a rise of 13% in real terms. Much of this increase was due to a substantial rise in the amount disbursed for Newstart Allowance (now JobSeeker). By contrast, the amount spent on Disability Support fell by one quarter in real terms. Also noticeable is a rise in expenditure on Abstudy. Altogether, over the five years between 2016 and 2021, Australian government support payments to Traditional Owners in the Archipelago amounted to almost $96m, an average of $15.8 million per year.

Table 3.9 *Annual ($) amount of Centrelink allowances, pensions and payments to Indigenous clients: Groote Archipelago in 2016 and 2021 and total disbursements over the period 2016−2021*

Income support category	2016	2021	Total 2016−2021
ABSTUDY (General)	539,043	1,567,715	5,269,725
ABSTUDY Schooling A	324,181	94,099	1,052,007
Age Pension	601,518	824,591	4,062,247
Carer - Unspecified	640,365	510,781	3,324,668
Disability Support Pension	3,302,077	2,713,417	16,170,574
JobSeeker Payment	n.a.	8,594,251	22,338,317
Newstart Allowance	6,181,469	108,398	24,773,371
Parenting Payment – Single	654,361	676,950	3,852,388
Parenting Payment Partnered	1,055,719	1,191,650	7,648,511
Youth Allowance	897,008	1,281,146	7,415,216
Total	**14,195,741**	**17,562,999**	**95,907,025**

n.a. = not applicable.

Source: Services Australia.

Returning to the census data on income, what is not known, of course, is the extent to which royalty and rent payments and income from art sales etc. are reported. If not, then the census figures provided would obviously be minimum amounts. However, as noted, it is not so much absolute income that is of importance – it is the distribution of income across the population and how this is changing over time that matters. Allied to this is the question of how income circulates across the community, particularly given the reality of extended family networks and linked households. This can lead to some equalisation of income distribution but, currently, there are no data available with which to measure this.

If the ALC required more precise and on-going measures of personal and household income, there are only few options for achieving this. One would be to conduct a dedicated local survey of income, although this might prove controversial. A less intrusive approach could be to access confidentialised payroll data from local employers, assuming they could be co-opted. The only other option would be to extract income data from the Australian Taxation Office via the Commonwealth's Multi-Agency Data Integration Project (MADIP). However, this is likely to be impractical. It is designed primarily as a research tool and all projects must go through a lengthy and rigorous assessment and approval process, managed by the ABS – with access only granted to authorised researchers for policy analysis, research, and statistical purposes.

Key findings: LDMA Economic Development

- Population-based public-access data on economic development are focused on workforce participation and income.

- There has been substantial restructuring of the regional economy over the past 15 years towards the use of mining royalties to stimulate local job creation.

- In 2006, there was heavy reliance on CDEP for employment. Only 70 adults (6%) had jobs in the mainstream economy.

- By 2021, 230 adults (19%) of adults were employed in mainstream jobs.

- An employment survey conducted by Traditional Owners in 2022 identified a total of 225 Traditional Owners in jobs.

- The employment rate increases with age, especially for males. Only 12% of adults aged under 30 are employed compared to 33% aged 40–59.

- In other words, 88% of adults under 30 are not employed.

- Most Indigenous workers are in public administration, arts and recreation services, other services, retail, construction and health care.

- The main source of employment growth over the past decade has been via the various service and development arms of the ALC. Compared to a total of 40 Traditional Owner employees in 2013, the ALC now employs 77 (in 2022). Most of this recent growth has been in male employees.

- Most of these jobs are in the Preserving Culture, Land and Sea Program and the Community Support Program.

- Anindilyakwa Arts employs 10 Arts Workers but has very wide outreach with a total of 406 artists on its books.

- One vehicle for employment growth has been the expansion of ORIC-registered Aboriginal Corporations from just two in 1994 to 29 in 2021.

- Of these, major employers of Traditional Owners include GEBIE Civil and Construction (30) and Aminjarrinja Enterprises (20).

- East Arnhem Regional Council employs 40 Traditional Owners mostly in municipal services, child and library services, community night patrol, youth, sport and recreation services and aged care and disability services.

- Employment at GEMCO has declined in recent years. Currently there are only 19 Traditional Owner employees.

- Most adults who are not in work are engaged in the Community Development Program. The CDP caseload has expanded over the past decade from just over 500 in 2013 to almost 650 by 2022.

- Job placements for CDP participants have been low and have declined as a proportion of the caseload. In 2018, around 10% of the caseload were in job placements. By 2021 this had fallen to just 4%.

- Just over 50% of both males and females in the age group 15–29 are participants in CDP.

- The economic burden (ratio of persons not employed plus children to those employed) has substantially reduced from 15:1 in 2006, to 5.8 in 2021.

- Since 2006, employment growth has led to income growth both for individuals and households.

- In 2006, gross annual personal income for Indigenous residents of the Archipelago amounted to $10.7 million ($14.9 million CPI adjusted). By 2021 this had risen to $20.2 million.

- Overall, median personal and household incomes have remained the same and even fallen backwards in real terms.

- Median income has fallen because income growth has not been equally distributed – those employed now have higher income in real terms compared to those dependent solely on social security payments.

- In 2006, 24% of gross personal income was held by just 7% of adults. By 2021 this proportion had risen to 32% of personal income.

- In 2006, less than 20% of households accounted for 31% of gross household income. By 2021, this proportion had risen to 52% of gross household income.

- It is not clear if shifting royalty and rent payments play any role in these income dynamics.

- In 2021, 19% of adults were employed but they accounted for 45% of gross personal income.

- In 2021, Centrelink payments to Indigenous residents of the region amounted to $17.5 million.
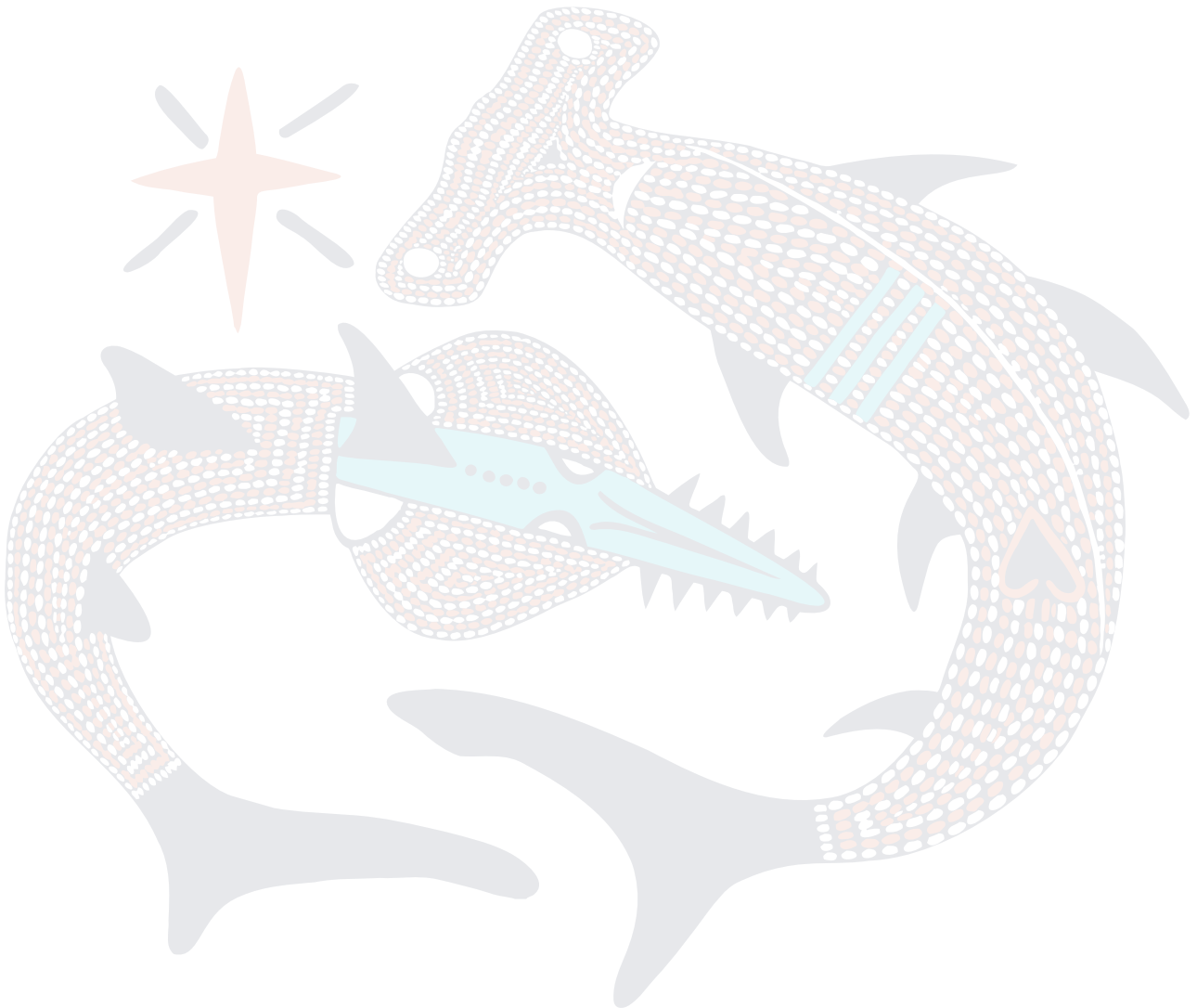
4.   LDMA Education

The Groote Archipelago LDMA, Schedule 3.4, refers to the Education Implementation Plan signed by the NTG, the ALC, and the Groote Eylandt and Bickerton Island Primary College Aboriginal Corporation (GEBIPCAC). It commits these parties to establishing a community-controlled bi-lingual education system in the Archipelago. It acknowledges that education outcomes suffer from low enrolments and low attendance and that parents increasingly seek boarding opportunities for schooling off-island. The plan seeks to replicate this opportunity within the region and build strong parent and community engagement through a flexible school structure.

In order to support these ambitions, the community profile seeks to quantify the current and future school-age population and to determine the extent to which it is currently engaged with schooling at all levels. The resident population of school-age across the Archipelago, including pre-school age, currently stands at around 360 having declined from around 480 – by 25% – since 2011 (Table 4.1). Most of this decline in numbers has occurred in the primary school age range of 6–11 years, but there are reductions observed across the board. Some uncertainty surrounds these figures owing to the fact that a number of Anindilyakwa school-age children attend school off-island. This issue is discussed in more detail further below.

Table 4.1   *Indigenous school-age population by school level: Groote Archipelago, 2011, 2016 and 2021*

School level	2011	2016	2021
4–5 (Pre-school)	67	48	52
6–11 (Primary)	224	183	140
12–17 (High school)	192	237	170
Total	483	468	362

Source: ABS Census of Population and Housing.

We can obtain a clearer view of this demographic shift if we take a longer-term perspective and consider the resident population in each of these school-age brackets in 2001 compared to 2021. This is shown in Figure 4.1. Immediately evident is the shrinkage in numbers across all stages of schooling, especially in primary school years. As mentioned, the latter may partly reflect the impact of off-island boarding.

Figure 4.1   *Indigenous population counts in school-age groups: Groote Archipelago, 2001 and 2021*
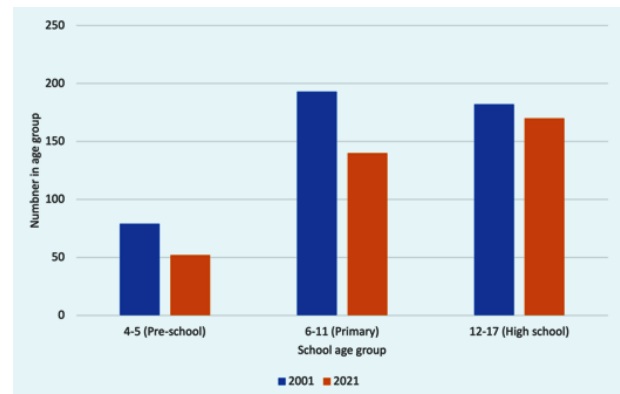
Source: ABS Census of Population and Housing.

There are four schools in the Groote Archipelago, all operated by NTG Department of Education: the Anindilyakwa Community Schools at Angurugu, Umbakumba, and Milyakburra, and the Alyangula Area school. In combination these can cater for students from pre-school to Year 12. In addition, a number of schools in the Cairns region as well as in Townsville, Darwin, Melbourne and Perth host students from the Groote Archipelago mostly through the Queensland-based Learning Houses boarding program run by Aminjarrinja Enterprises and the joint ALC/Australian Football League (AFL) Cape York House Groote Eylandt Transition program. GEBIE also sponsors schooling off-island. Altogether, in May 2022, a total of 78 children from the Archipelago were attending these boarding

school programs ranging in age from 4 to 17 years. The Aminjarrinja program is currently unique in focusing mostly on primary-age children of whom there are 45. It is possible that this form of out-migration has accounted for some of the observed decline in the resident population of school age.

In determining this, one question that arises is whether these children were all away at the same time when the 2021 Census was being conducted (August 2021) and, for those who were, whether they were counted as usual residents of Queensland or the Groote Archipelago? In other words, to what extent are they included in the population in figures shown in Table 4.1? They would certainly have been counted as present in Queensland if they were attending school there at that time (assuming their carers completed the census form appropriately) but the real question is whether their carers and/or their parents back on Groote Eylandt also listed them as Groote Eylandt usual residents?

The answer to this question is ultimately unknown. By definition, of course, usual residence refers to the place where individuals mostly reside and so it is plausible that part of the decline in the school-age population is due to statistical leakage from this age group due to the correct application of this definition. However, there is reason to suggest that this is not the case. If we add those attending school off-island (78) to the count of on-island school-age children conducted by Traditional Owners (240), then we arrive at a figure for the school-age population of 318 that is very similar to that from obtained by the 2021 Census count for primary and high school ages (310).

Nonetheless, being precise about the overall size and composition of the school-age population remains a complex task that requires collaborative input from all agencies involved, and a pressing requirement for LDMA

implementation is to integrate on-island and off-island school participation databases to create a single whole-of-population education profile. In the meantime, for those off-island, a key question is whether they are likely to return after schooling and assume residence in the Archipelago. Either way, schooling both on- and off-island presents issues regarding mainstream and cultural learning and how achievement in both of these is best secured.

These larger matters regarding the nature and appropriateness of different models of education are beyond the scope of the present profiling exercise and they properly belong in the deliberations of LDMA forums. Instead, what we focus on here is the experience of schooling on-island over the past decade for which data are more readily available. We examine what these statistics can tell us about the scale and composition of enrolments and attendance, and the degree of school readiness and achievement.

Early childhood

In the Australian public education system, outcomes from education are typically measured in terms of participation rates, attendance rates, competency in numeracy and literacy skills, and years of completed schooling. One feature of schooling that has changed considerably in recent years is a growing expectation that children will have access to and participate in some form of early learning (birth to 3 years, in playgroups and child and parent centres) and optional entry into pre-school at age 4 and pre-primary at age 5. Inevitably, interest has begun to surround the question of preparedness for formal schooling, and indices of childhood development have emerged to assess this. All of these issues are of interest to the LDMA Education Implementation Plan which prioritises early childhood development and education.

The most comprehensive quantitative data available regarding early childhood are to do with preparedness to successfully participate in education rather than outcomes as such. In 2009, Australia became the first country in the world to collect national data on the developmental health and wellbeing of all children starting school, basically at age 5. Since that time the Australian Early Development Census (AEDC) has gathered the same set of indicator data every three years. Teachers of children in their first of year of full-time schooling complete a research tool – the Australian version of the Canadian Early Development Instrument (AvEDI) – based on their knowledge and observations of the children in their class.

The AvEDI measures five important areas (domains) that are indicative of early childhood development. These include physical health and wellbeing, social competence, emotional maturity, school-based language and cognitive skills, and communication skills and general knowledge. A description of what these domains measure is provided in Table 4.2. For each of these, children receive a score of between 0 and 10, with 0 representing those who are most developmentally vulnerable. To report on outcomes, a series of cut-off scores are assigned to each of the five domains: children falling below the national 10th percentile are categorised as 'developmentally vulnerable' and those falling between the 10th and 25th percentile are categorised as 'developmentally at risk'. All other children are categorised as 'developmentally on track'.

Table 4.2 *Australian Early Development Census (AEDC) Domains and description*

AEDC Domain	Description
Physical health & wellbeing	Physical readiness for the school day, physical independence and gross and fine motor skills
Social competence	Overall social competence, responsibility and respect, approach to learning and readiness to explore new things.
Emotional maturity	Pro-social and helping behaviours and absence of anxious and fearful behaviour, aggressive behaviour and hyperactivity and inattention.
Language & cognitive skills (school-based)	Basic literacy, advanced literacy, basic numeracy, and interest in literacy, numeracy and memory.
Communication skills & general knowledge	Communication skills and general knowledge based on broad developmental competencies and skills measured in the school context.

Source: Commonwealth of Australia 2019.

Results for children attending schools in the Groote Archipelago are reported in combination with those of children from Numbulwar and associated outstations in a regional grouping called South Miwatj. The results also incorporate non-Indigenous children in this same region and these account for 25% of all those surveyed, no doubt mostly from Alyangula school. From the numbers involved, it would appear that the surveys captured the vast majority of children aged 5 years at the time.

Table 4.3 shows the findings from the 2009 and 2018 surveys according to the percentage of students assessed as being 'on track', 'at risk', or 'vulnerable' across the five domains. Also shown is an indication of whether the change in the percentages between 2009 and 2018 is statistically significant or not, either up or down. Despite the merging of results for a wide area, a number of general observations are worth making, given that Indigenous children from the Groote Archipelago comprise approximately half of the Table 4.3 population.

Table 4.3   *Australian Early Development Census domain results: South Miwatj Region, 2009 and 2018*

Domain	Status	2009 %	2018 %	Change 2009 vs 2018
Physical health and wellbeing	On track	54.5	69.4	Significant increase
	At risk	19.7	11.1	No significant change
	Vulnerable	25.8	19.4	No significant change
Social competence	On track	56.3	41.7	Significant decrease
	At risk	14.1	22.2	No significant change
	Vulnerable	29.7	36.1	No significant change
Emotional maturity	On track	46.0	67.7	Significant increase
	At risk	28.6	3.2	Significant decrease
	Vulnerable	25.4	29.0	No significant change
Language and cognitive skills (school-based)	On track	34.4	44.1	Significant increase
	At risk	29.7	11.8	Significant decrease
	Vulnerable	35.9	44.1	Significant increase
Communication skills and general knowledge	On track	37.9	63.9	Significant increase
	At risk	33.3	13.9	Significant decrease
	Vulnerable	28.8	22.2	No significant change

Notes: Developmentally on track: The cut-off for an AEDC score to represent 'on track' is based on the baseline set in the 2009 AEDC data collection. In 2009, children who scored above the 25th percentile (in the top 75%) of the national population we classified as developmentally 'on track'

Developmentally at risk: The cut-off for an AEDC score to represent 'at risk' is based on the baseline set in the 2009 AEDC data collection. In 2009, children who scored between the 10th and 25th percentile of the national population were classified as 'at risk'.

Developmentally vulnerable: The cut-off for an AEDC score to represent 'vulnerable' is based on the baseline set in the 2009 AEDC data collection. In 2009, children who scored below the 10th percentile (in the lowest 10%) of the national population we classified as developmentally 'vulnerable'.

Source: Commonwealth of Australia 2019.

First of all, a number of significant shifts have occurred since 2009 across all domains. For example, there has been a significant improvement among those 'on track' towards optimal physical health and wellbeing, emotional maturity, language and cognitive skills and communication skills and general knowledge. In contrast, the proportion of children assessed to be 'on track' in social competence has significantly reduced. For the most part, by 2018, the majority of children were 'on track' in all domains except in social competence and language/cognitive skills, where substantial proportions were assessed as being in the 'vulnerable' category. Overall, levels of those assessed to be 'vulnerable' have remained unchanged and range from involving one-fifth to around one-third of children in most domains, except for language and cognitive skills where almost one-half of children are reported as 'vulnerable'.

Aside from the lack of sole focus on Anindilyakwa children, a major limitation of the data produced by the AEDC is the measurement bias implied by its mainstream western standpoint. Aside from the purely physical indicators, how, for example, might one understand and measure social competence, emotional maturity, language, cognitive and communication skills, and general knowledge from an Anindilyakwa cultural perspective? This form of two-way assessment is central to the LDMA Education plan but the tools for measuring outcomes in this way are only just being developed and applied and results are not yet available for the present community profile. Creating an ability to measure outcomes and progress in education, indeed across all of the LDMA service delivery areas, in ways that reflect Anindilyawkwa worldviews and priorities is one of the challenges, and one of the opportunities, presented by the return to local decision-making (see Morphy 2016).

A key response, then, has been the development of a new measurement tool designed by the University of Melbourne Medical School for use in Indigenous communities – the so-called ASQ-Trak (based on the Ages & Stages Questionnaire) developmental screening tool. This is now being applied in communities across the Groote Archipelago by a joint Australian and NT Government sponsored initiative, 'Connected Beginnings'.

'Connected Beginnings' is collective impact program aimed at children up to 8 years of age. It is designed to improve children's school readiness and attendance in the early stages of schooling by coordinating access of mothers and children to support services. It works closely with the NTG's Families as First Teachers program, which is an early learning and family support program focused on children and their mothers from birth to 5 years, as well as the NTG Department of Health. Through their combined efforts, the aim is to ensure that all children have equal access to support services and it is encouraging to find that their data on the number of clients across the Archipelago (170) match very closely with the figures from the 2021 Census for the same age groups.

The main achievement to date has been the development of a Community Action Plan to run for three years from June 2022 to June 2025 ('Ngakwurrilangwa Wurriyukwayuwa') which represents the idea of 'everyone working together for the children of Groote'. This is built around 6 collective impact principles for change to do with governance, community mobilisation, building an evidence base, strategic learning and capacity building. As mentioned, an initial step in building the evidence base for this program has been the identification of in-scope children and their families and the deployment of the ASQ-Trak screening tool, although by the time of preparing this report only 18 children had been screened and so there are no data available to

report. Aside from coordination and training meetings and approximately 200 family engagement visits, the main impact to date has been the creation of a local early childhood development and education workforce of 14 persons, 6 of whom are Traditional Owners employed as Community Connectors.

Participation in schooling

Data were obtained from the NTG Department of Education on combined Indigenous enrolments for island-based schools disaggregated by grade level and single year of age for each year from 2011 to 2021. Data on combined attendance levels and rates were also provided. In addition, to this, the Australian Curriculum, Assessment and Reporting Authority (ACARA) provides allied information about individual schools in the Archipelago via its *MySchool* website. Equivalent time series data on enrolments and attendance at off-island schools is more difficult to obtain since there is no single reporting facility or capacity, and accessing comprehensive data proved to be elusive. As we have seen, some sense of enrolment numbers was achieved and these can be combined with NTG Education data to provide a preliminary whole-of-population measure of school engagement, but other aspects of school performance such as attendance and outcome and student characteristics were only accessible for on-island schools. For future input to the LDMA Implementation Plan, it is recommended that further effort is made to quantify and develop performance indicators for a single school-age population combining on-island and off-island elements.

Enrolments

The total number of Indigenous enrolments from primary level upwards in Groote Archipelago schools between 2006–2008 and 2014–2021 is shown in Figure 4.2. Also shown is the breakdown for each of the four schools. Data for the first period are taken

from the original ALC-sponsored baseline profile (Australian Government 2009) while the more recent enrolments data are from ACARA's *MySchool* website. The trend in school enrolment since 2006 is quite clear – what was a slow rise in enrolments from 380 in 2006 to 422 in 2008 continued on to reach a peak of 471 in 2014, from which point enrolments rapidly and steadily declined to reach the current (2021) low level of just 196. To provide some context for interpreting this decline, the peak enrolment figure of 471 at island-based schools in 2014 accounted for 100% of the Archipelago's estimated school-age population aged 6–17 years at that time, whereas the enrolment rate in 2021 was just 54%.

Figure 4.2 *Indigenous school enrolments* in Groote Archipelago based schools: 2006–2008 and 2014–2021*
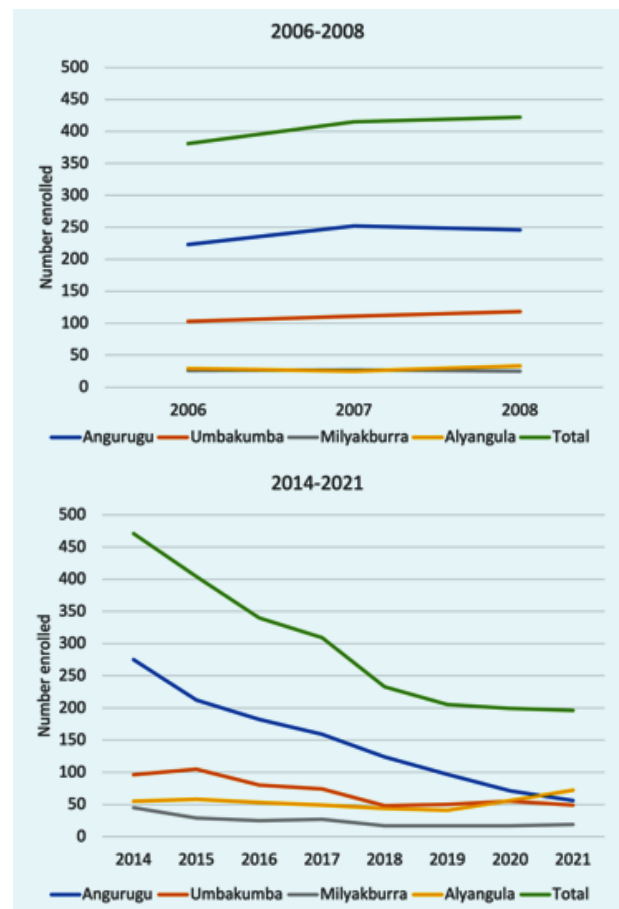
*Excluding pre-school.

Source: Australian Government 2009; http://www.myschool.

If we expand this trend analysis of enrolments to include those in pre-school ages (Figure 4.3), we can see that in 2011 there was almost full enrolment in local schools among pre-school and primary school-age groups, and around 80% enrolment among those of high school age. By 2016, the universal enrolment at pre-school age had been sustained, but enrolments among children and youth of primary and high school age had begun to recede. By 2021, the enrolment rate among children of pre-school age had joined the general decline and now sits at just 56%, while the rate among primary-age children appears to have stabilised at around 80%. Among youth of high school age, however, there are now barely one-third of that age group enrolled in island-based schools.

Figure 4.3 *Percent of Indigenous school-age groups enrolled in Groote Archipelago based schools: 2006−2008 and 2014−2021*
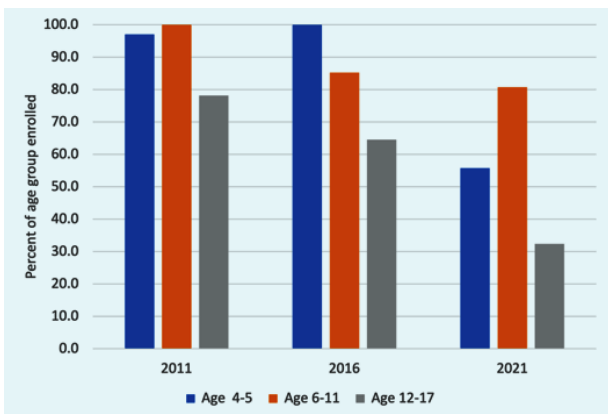
Source: NTG Department of Education

Enrolment numbers for all schools combined across different Year Levels in 2011, 2016 and 2021 are shown in Figure 4.4. It clearly illustrates a steady decline in enrolments at all Year Levels over the past decade except for a slight increase in Years 9−11 between 2011 and 2016. The most striking observation, though, is that enrolments in 2021 are substantially down on previous years especially in Pre-school and Transition Years and in Years 7−10. The biggest decline, however, has occurred in Primary school years where

enrolments have fallen by as much as 55%, from 286 to 128, as shown in Figure 4.5.

Figure 4.4 *Indigenous enrolments by school Year Level: Groote Archipelago schools, 2011, 2016 and 2021*
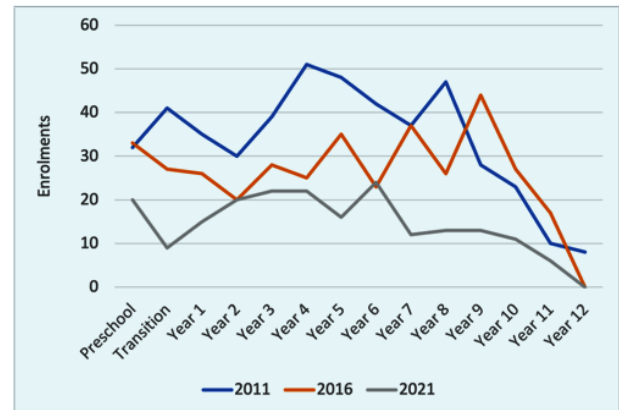
Source: NTG Department of Education.

Figure 4.5 *Indigenous enrolments by school level: Groote Archipelago schools, 2011−2021*
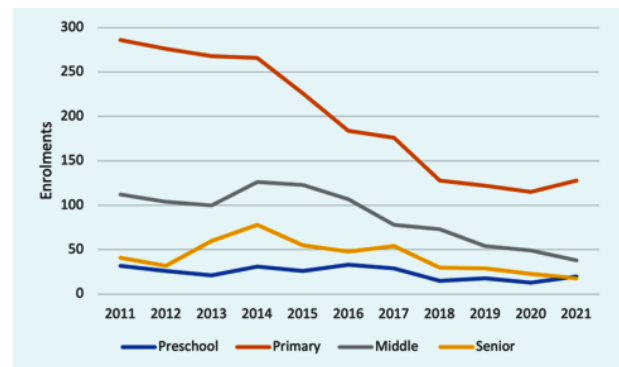
Source: NTG Department of Education.

One possibility is that this reduction in enrolments simply reflects the shrinkage in the resident population of school age, including some out-migration for off-island schooling. While that is likely to be part of the story, it doesn't account for all of it. Of more importance is an actual decline in the proportion of school-age groups that enrol in school as shown in Figure 4.3. If we express these proportions as numbers in each age group that are not enrolled at school, the results are as shown in Table 4.4.

Table 4.4 *Estimates of Indigenous children and youth not enrolled in Groote Archipelago schools, 2011, 2016 and 2021*

Age group	2011	2016	2021
4–5	2	0	23
6–11	0	27	27
12–17	42	84	115
Total	44	111	165
% of school-age population	5.3	23.7	45.6

Source: Own calculations based on NT Department of Education and ABS Census of Population and Housing.

According to these figures, the scale of non-enrolment has increased substantially over time. In 2011, just 5% of eligible students were not enrolled in school but by 2021 this figure had risen to almost half (46%), involving as many as 165 individuals of school age. This absence from schooling is especially marked among those in high school years, although what is not shown in Table 4.4 is that non-enrolment increases gradually with age across the 12–17 age range with the lowest rates occurring in senior school years.

However, as we have argued, there is a case for including students enrolled off-island in this population-based calculation. We only have current data for this, but if we add the 78 in this category to those enrolled in island-based schools, then the estimate of Anindilyakwa children who are currently not enrolled is reduced to 87, or 24% of the school-age population. Either way, this remains a sizeable proportion.

School attendance

Two attendance measures are routinely gathered for each school – the student attendance rate (defined as the number of actual full-time equivalent student-days attended by full-time students expressed as a percentage of the total number of possible student-days attended over the period), and the student attendance level (defined as the proportion of full-time students whose attendance rate is equal to or greater than 90%). Both of these measures refer to attendance during Semester 1 of each school year and reliable time series data have been made available by the NTG Department of Education for the period 2011–2022, with the proviso that data for Weeks 10 and 11 of Term 1 in 2020 were excluded due to data quality issues on account of Covid-19 measures.

Among those children and youth enrolled each year since 2011, the attendance rate has generally been below 50% and this has declined since 2011 (Figure 4.6). Just by way of comparison, the attendance rate among all students in the NT in Term 1 of 2021 was 80%. More crucially, though, the attendance level indicating the proportion of students attending more than 90% of available school days has been consistently below 10%. Although this has trended upwards of late, it still stands at only 11%. This means that the vast majority of students who have been enrolled in Groote Archipelago schools over the past decade have not been attending school for the minimum time stipulated by COAG (via ACARA) as required to maximise the benefits from schooling (Hancock et al. 2013: 251). Presently, only an estimated 26 students would fall into this category.

Figure 4.6 *Attendance rate and attendance level of Indigenous students: Groote Archipelago schools, 2011–2021*
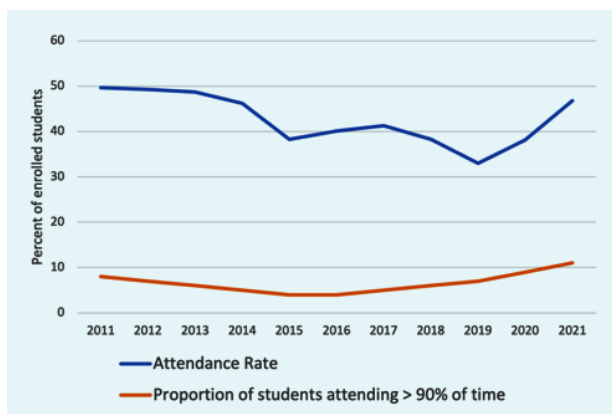
Notes: Attendance Rate: The attendance rate is based on the National Standards for Student Attendance Reporting and differ from other NT attendance reporting measures. It represents the actual full-time equivalent student days attended by full-time students for each school divided by the number of possible full-time equivalent student-days that could have been attended by full-time students.

Attendance level: The attendance level is calculated as the number of possible full-time equivalent student days attended by full-time students where the student was in attendance for 90% or more of the possible days divided by the number of possible full-time equivalent student days that could have been attended by all full-time students.

Source: NTG Department of Education.

As for a long-term measure of whole-of-population outcomes from schooling, the main one available is from the census and it refers to the highest level of schooling completed for all adults in the population. This statistic summarises a wide range of schooling experiences, in rare cases dating back to the 1930s, and it essentially reflects the mix of current and historic schooling experiences, achievements and requirements that are prevalent within the population at each census. In effect, it records the length of exposure to formal schooling that is prevalent in extant populations and, not surprisingly, there are strong age-related outcomes.

Overall, people in older age groups are more likely to have experienced no schooling, or schooling to just Year 8, compared to those

in younger age groups who are more likely to have experienced progressively higher levels of schooling as the age requirement for compulsory education has gradually been extended. In 2010, for example, the minimum school leaving age in the Northern Territory was increased from 15 years to 17 years (or Year 10 completion).

So, in Figure 4.7 we can see that around 15% of Indigenous adults in 2001 still had no experience of school. Among those who had been to school the majority did not progress beyond Year 8. Less than 10% (just 6 individuals) had continued on beyond Year 10. Since that time, overall schooling levels have steadily risen, but the proportion of adults completing above Year 10 still only accounts for just over one-quarter of the total. Most of the current adult population (72%) still reports a schooling level at Year 10 or below. The shift in actual numbers since 2001 are shown in Table 4.5. Of course, given recent levels of school attendance, precisely what message this census measure of school achievement might convey about education outcomes is open to some question. At best, it suggests progressively longer exposure to schooling over time. At worst, it yields an over-optimistic measure of educational achievement.

Figure 4.7 *Highest year of school completed by Indigenous adults: Groote Archipelago, 2001, 2011 and 2021*
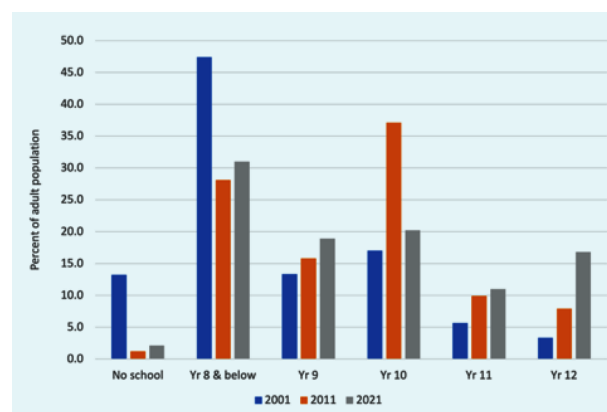
Source: ABS Census of Population and Housing.

Table 4.5 *Estimated* numbers of Indigenous adults by highest year of school completed: Groote Archipelago, 2001 and 2021*

Year completed	2001	2021
No school	118	24
Year 8 & below	948	350
Year 9	16	213
Year 10	161	228
Year 11	1	124
Year 12	5	190

*Based on the distribution net of Highest Year of School 'not stated'.

Source: ABS Census of Population and Housing.

Vocational Education and Training

Australian workplaces, including those engaged in cultural pursuits such as customary land and sea management, are constantly upgrading and changing their occupational skill requirements. Consequently, the achievement of adequate and appropriate accreditation (Vocational Education and Training (VET) and/or tertiary qualification) is increasingly a prerequisite for entry into on-going employment across the board, along with other requirements to do with health and safety standards. Acquisition of these formal workplace qualifications is available from a variety of public and private Registered Training Organisations (RTOs) engaged via workplaces and/or programs in the Groote Archipelago. Options are also available to engage in a contract with a 'host' employer for an apprenticeship or traineeship – in effect, to undertake on-the-job training whilst in paid employment. A list of the RTOs that have operated in the Groote Archipelago in recent years is provided in Table 4.6. Secondary school students are also able to undertake vocational education and training courses as a part of their school program and this option is offered at Angurugu, Umbakumba and Alyangula schools.

Table 4.6 *Registered Training Organisations providing services for the Indigenous population of the Groote Archipelago during census years 2006 and 2021*

Advanced Training International Inc.
Assessing and Training Centre
B and K Kakoschke Pty Ltd
Batchelor Institute of Indigenous Tertiary Education
Carey Training Pty Ltd
Charles Darwin University
Council for Aboriginal Alcohol Program Services
Dovaston Consulting Group Pty Ltd
Industries Services Training Pty Ltd
Northern Territory Christian Schools Association Inc.
Northern Territory Correctional Services
Northern Territory Police, Fire and Emergency Services
Nungalinya College Indigenous Corporation
Outback Stores Pty Ltd
Royal Life Saving Society Australia NT Branch Inc.
SERATA Network Pty Ltd
St John Ambulance Australia NT Inc.
Stringybark Training
Taminmin High School Council Inc.
The Arnhem Land Progress Aboriginal Corporation
Timber Training Creswick Ltd
Top End Development Services Pty Ltd
Top End Group Training Pty Ltd.
Train Safe NT Pty Ltd
Advanced Training International Inc.

Source: NTG Department of Industry, Tourism and Trade.

All training undertaken by VET course participants is reported to the Business and Workforce section of the NTG Department of Industry, Tourism and Trade and the Department has provided data regarding the age and sex of individual Indigenous participants with a usual residence address in the Groote Archipelago, along with their course enrolments and outcomes during each census year from 2006 to 2021. These years were selected in order to link participants back to respective census year populations.

Figure 4.8 shows the number of Indigenous students engaged in VET course units in each of these four years. Clearly, 2011 stands out as having an upsurge in training activity, otherwise annual student numbers have been fairly consistent at around 150. Overall, male students have tended to outnumber female students (Figure 4.9) although this imbalance has shifted over time – in 2006, 75% of students were male but this proportion now stands at just over half (57%).

Figure 4.8 *Number of Indigenous Vocational Education and Training students: Groote Archipelago, 2006−2021*
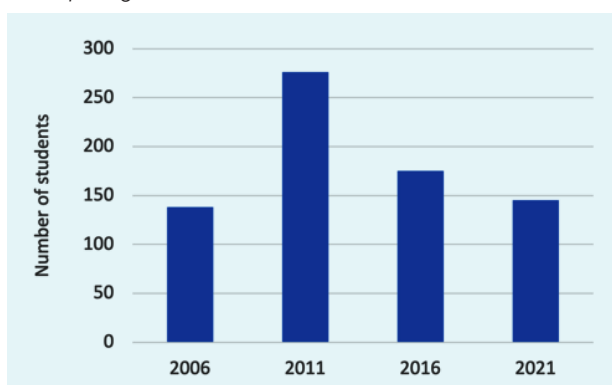
Source: NTG Department of Industry, Tourism and Trade.

Figure 4.9 *Number of Indigenous male and female Vocational Education and Training students: Groote Archipelago, 2006−2021*
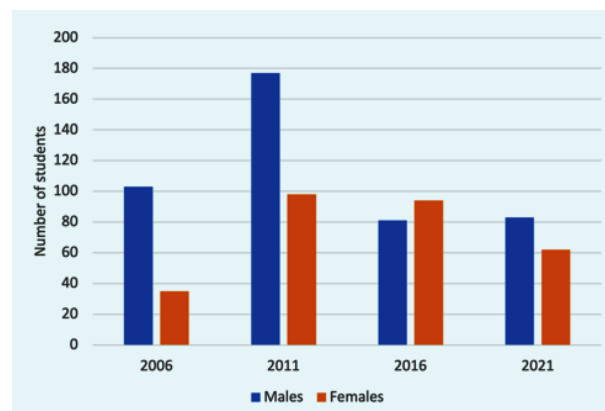
Source: NTG Department of Industry, Tourism and Trade.

The age distribution of students is shown in Figure 4.10. As might be expected, the vast majority are drawn from younger adult ages (15−44), and the surge in student numbers in 2011 was obviously targeted at these ages. In the past decade, however, numbers have tended to decline except among oldest adults. The population impact of this shift is best shown in Figure 4.11, which indicates student numbers as a proportion of each age group. In 2011, during the surge in participation, VET students accounted for as much as one-quarter of all Indigenous adults in the age range 15−54 and just over 10% of middle school students. By 2021, however, this proportion among those of working-age was reduced by half to just 12%, while school-based VET is now almost non-existent.

Figure 4.10 *Number of Indigenous Vocational Education and Training students by age: Groote Archipelago, 2006–2021*
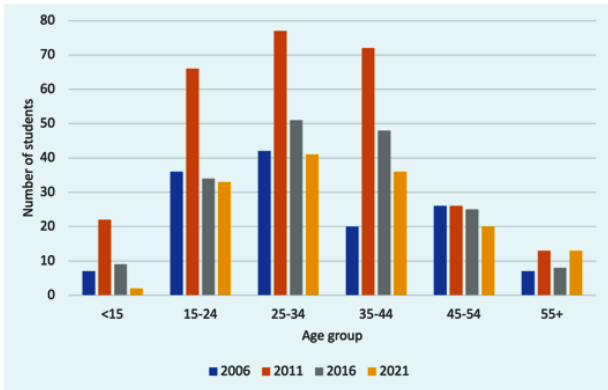
Source: NTG Department of Industry, Tourism and Trade.

Figure 4.11 *Indigenous Vocational Education and Training students as a percentage of age group: Groote Archipelago, 2006–2021*
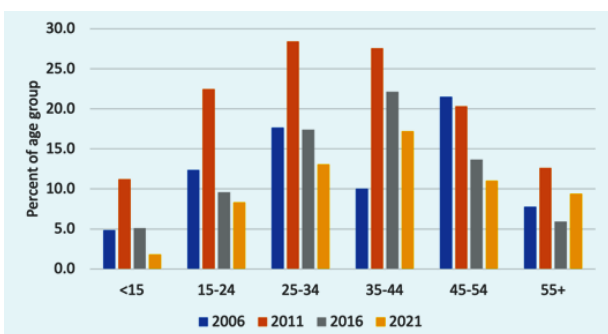
Source: NTG Department of Industry, Tourism and Trade.

An examination of enrolments by course type provides some clue regarding these changes in levels of participation. Cumulation of the data for each of the four years reveals that students were enrolled in a total of 106 different types of courses. Many of these were in the same subject area at different levels, or they were at least in a similar professional category. On this basis, we can reduce these courses to just 27 categories and Table 4.7 shows the cumulative number of enrolments over the four years according to these categories.

Before considering these figures, it should be noted that students are typically enrolled in multiple units/subjects that together form a course, program or skillset. In this case,

when the student is assessed as competent in all these unit enrolments then they would be deemed to have completed that particular course, program or skillset. In many cases, however, students can be enrolled against single individual units that are not associated with any course, program or skillset. The student can be assessed for that unit alone and provided a final outcome. These subject or unit enrolments that are not associated with any program or skillset are referred to in the data as 'unit only'.

As we can see, these 'unit only' enrolments are the most common form of VET engagement together with those designed to provide student support in areas such as literacy, numeracy and preparatory skills for workforce engagement. Leaving these aside, the distribution of course enrolments is heavily skewed to certain subject types with the top 10 of these categories accounting for as much as 41% of all enrolments. These include courses in conservation & land management, construction, forestry, Christian ministry & theology, education, sports & recreation, aged, home and individual care, arts, music & media, civil construction & plant operation and retail. As we have seen, course enrolments appear to come in waves and, from the changing content of courses over time, these appear to be driven by variation in program delivery and/or skill sets required to match prevailing community objectives and employment demand. So, for example, in 2006, the most prominent courses undertaken were in music and theology; in 2011, it was aged care, construction, engineering, conservation & land management, and education; in 2016, sport and recreation, education skills development, conservation & land management; and in 2021, forestry and construction.

Table 4.7 *Distribution of Indigenous student training by course subject category: Groote Archipelago, 2006–2021*

Course category	Number of students	Percent
Unit only	261	31.2
Learner Support/Introductory	83	10.0
Conservation and Land Management	66	7.9
Construction	63	7.6
Forestry	41	4.9
Christian Ministry & Theology	35	4.2
Education	30	3.6
Sports & Recreation	28	3.4
Aged, Home and Individual Care	25	3.0
Arts, Music & Media	25	3.0
Civil Construction & Plant Operation	16	1.9
Retail	16	1.9
Engineering	15	1.8
Community Services	14	1.7
Business & Finance	13	1.6
Seafood Industry	13	1.6
Tourism & Hospitality	11	1.3
Maritime Operations	10	1.2
Information Technology	9	1.1
Resources infrastructure & Processing	9	1.1
Trades	9	1.1
Horticulture	9	1.1
Health Care	8	1.0
Manufacturing	7	0.8
Children's Services & Early Education	6	0.7
Automotive Mechanical	6	0.7
Road Transport	3	0.4
Community Policing	2	0.2

Source: NTG Department of Industry, Tourism and Trade.

Aside from the 'unit only' courses, the vast majority of enrolments were in subject-specific courses involving a total 588 enrolments across the four years. Figure 4.12 shows the distribution of these by Certificate level.

The most common course level has been Certificate II which accounted for 40% of all enrolments. Certificate I and III enrolments accounted for 27% each and Certificate IV and Diploma level enrolments have been

relatively rare but nonetheless significant in terms of personal achievement for those involved. Certificate IV enrolments have been in Accounting, Primary Health Care, Christian Ministry and Theology, Early Childhood Education, Retail Management, Education Support, and Community Policing.

Figure 4.12 *Distribution of Indigenous student participation in Vocational Education and Training courses by Certificate level: Groote Archipelago, 2006–2021*
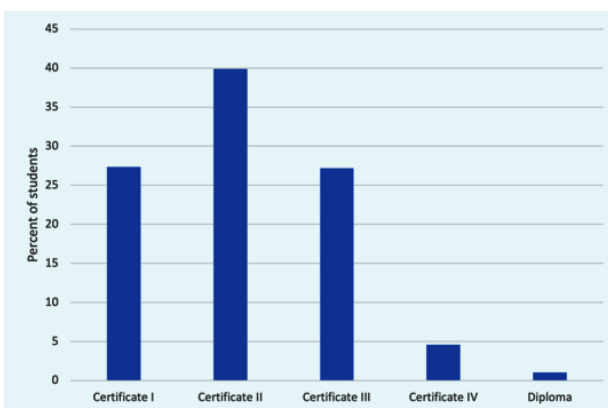
Source: NTG Department of Industry, Tourism and Trade.

Vocational Education and Training outcomes

Performance in the VET sector is determined according to whether students successfully complete (pass) units of study or whether they withdraw from study or fail. Successful completion can also include credit transfers, recognition of prior learning and non-assessable enrolments that are satisfactorily completed, although these outcomes are relatively few in the Groote Archipelago. Since 2006, there has been a steady increase in the proportion of units successfully completed and a corresponding decline in the proportion of students who have withdrawn from, or failed, units (Figure 4.13). In 2006, 57% of course outcomes were successful and by 2021 this proportion had risen steadily to reach 86%. While it is true that unit enrolments in 2021 were much lower than in all previous years, the trend towards improved outcomes among those enrolled in courses appears unequivocal.

Figure 4.13 *Distribution of Indigenous student course outcomes*: Groote Archipelago, 2006–2021*
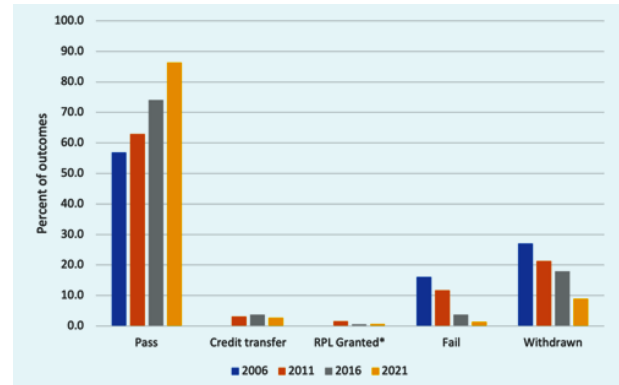
*Excludes a total of 126 students enrolled in units over each of the four years who were continuing studies into the subsequent year.

Source: NTG Department of Industry, Tourism and Trade.

Apprenticeships and traineeships

Details of all contracts entered into for an apprenticeship or traineeship for persons with a Groote Archipelago address or who are engaged by an employer located in the region are reported to the NTG Department of Industry, Tourism and Trade. This includes the number of commencements and cancellations/withdrawals as well as the trade category of host employers. Using these data, Table 4.8 shows the number of commencements of Indigenous apprentices by trade category over the period 2006–2021.

Clearly, most of these contracted positions have been in four main industries – automotive, building and construction, engineering and mining, and sales and personal services in that order. As for outcomes from these positions, Table 4.9 shows these to be mostly unfavourable with very few completions in any period over the past 15 years. While these apprenticeship completion numbers appear remarkably low, the levels reported in these data do seem to fit with advice from GEMCO that over the entire period 2011–2021 they engaged only 6 Indigenous apprentices and only 4 of these successfully completed.

Table 4.8 *Number of commencements for Indigenous apprentices* in the Groote Archipelago by trade category, 2006–2021*

Trade category	2006–2010	2011–2015	2016–2021
Automotive	2	7	11
Building and Construction	8	4	7
Business and Clerical	1	0	0
Community Services, Health & Education	0	4	0
Engineering and Mining	3	3	6
Finance Banking & Insurance	1	1	0
Sales and Personal Service	9	0	0
Tourism and Hospitality	2	0	0
Utilities	0	3	1
Total	27	22	25

*Includes apprentices with a residential address in the Groote Archipelago or an employer based in the Groote Archipelago

Source: NTG Department of Industry, Tourism and Trade.

Table 4.9 *Number of outcomes for Indigenous apprentices* in the Groote Archipelago, 2006–2021*

Apprenticeship Outcome	2006–2010	2011–2015	2016–2021
Cancelled	12	21	9
Completed	7	4	1
Withdrawn	0	0	2

*Includes apprentices with a residential address in the Groote Archipelago or an employer based in the Groote Archipelago.

Source: NTG Department of Industry, Tourism and Trade.

Table 4.10 shows the same type of data on commencements by trade category for those entering into formal traineeships. Once again,

the same industry categories stand out except for automotive. Instead, traineeships are prominent in building and construction – no doubt reflecting the activities of GEBIE and Aminjarrinja Enterprises. Overall, there has been a steady increase in trainee commencements over the past 15 years. This is also true of traineeship completions as shown in Table 4.11, especially in the most recent period, although cancellations have been equally prominent.

Table 4.10 *Number of commencements for Indigenous trainees* in the Groote Archipelago by trade category, 2006–2021*

Trade category	2006–2010	2011–2015	2016–2021
Automotive	1	4	6
Building and Construction	4	20	27
Business and Clerical	1	1	4
Community Services, Health & Education	0	3	0
Engineering and Mining	2	1	11
Finance Banking & Insurance	1	1	0
Sales and Personal Service	2	21	7
Tourism and Hospitality	1	6	0
Utilities	0	2	1
Total	12	22	56

*Includes apprentices with a residential address in the Groote Archipelago or an employer based in the Groote Archipelago

Source: NTG Department of Industry, Tourism and Trade.

Table 4.11 *Number of outcomes for Indigenous trainees* in the Groote Archipelago, 2006–2021*

Trainee outcome	2006–2010	2011–2015	2016–2021
Cancelled	8	49	40
Completed	5	8	35
Withdrawn	1	8	7

*Includes apprentices with a residential address in the Groote Archipelago or an employer based in the Groote Archipelago.

Source: NTG Department of Industry, Tourism and Trade.

A key human capital requirement in the regional labour market, and one that has assumed greater significance for Indigenous workers following the demise of the CDEP scheme, is the acquisition of formal vocational and higher education level qualifications. While program data can reveal course enrolments and completions each year, it remains the case that the 5-yearly census provides the only comprehensive set of data that reveals the levels of such qualification across the population as a whole.

Over recent decades there has been an increased demand for vocational and higher education qualifications across many occupations as the complexity of work tasks has increased. While the VET program data can provide some measure of the degree to which such qualifications are being acquired in the Groote Archipelago, for a whole-of-population measure we have to use census data. The census asks, 'Has the person completed any educational qualification (including a trade certificate)? Unfortunately, the most persistently common answer to this question is a non-response. Bearing this problem in mind, in 2001, only 19 Indigenous adults answered 'yes' to this question but, by 2021, this number had increased to 140, with 116 persons indicating a Certificate level qualification, 18 Diploma-level, and 6 Degree-level.

Key findings: LDMA Education

- The population in early childhood and school-age groups will be smaller in 2036. However, some uncertainty surrounds current and future numbers due to lack of data-matching with off-island school boarders.

- The Australian Early Development Census reports significant improvement since 2009 in four out of five child development indicators.

- Deployment of ASQ-Trak surveys by the Connected Beginnings program should provide more culturally-relevant measures of early childhood development.

- There has been a steady collapse in Indigenous enrolments at Angurugu, Umbakumba and Milyakburra schools since 2014, but an increase since 2019 at Alyangula.

- This decline in enrolment is most evident at high school ages where the enrolment rate has fallen from 80% in 2011 to just 30% in 2021.

- It is estimated that there are 87 school-age children (24% of the school-age population) who are not enrolled either on- or off-island.

- Effort should be made under LDMA processes to integrate on-island and off-island school participation databases to create a single whole-of-population education profile.

- The overall attendance rate at Groote Archipelago schools (% of those enrolled attending only some of the time) has been consistently low at 40–50% since 2011.

- The overall attendance level (those attending >90% of the time) has been consistently very low at <10% since 2011.

- In effect, this means that a large share of the current generation of school-aged children have missed an effective education.

- The number of Indigenous VET students in the Groote Archipelago has declined substantially over the past decade. In 2011, one-quarter of the 15–54 age group participated in VET courses. In 2021 this was just 12%.
- Participation rates have declined at all ages but remain highest in the 25–44 age group.
- Males are slightly more likely than females to participate in VET.
- The top 10 course subjects include, learner support, conservation and land management, construction, forestry, theology, sport & recreation, aged care, arts, music and media.
- Two-thirds of courses have been at Certificate I and II levels. One-quarter of courses have been at Certificate III level.

- Course outcomes have steadily improved since 2006 with 85% pass rate in 2021, up from 55% in 2006,
- The number of Indigenous apprentices has not changed since 2006–10 – an average of 25 in each period, mostly in automotive trades, building and construction, engineering and mining.
- Very few apprenticeships are completed (only 1 in 2016–2021).
- Commencements in traineeships have steadily increased from just 12 in 2006–2010 to 56 in 2016–2021. Completions have also improved from just 5 in 2006–2010 to 35 in 2016–2021.
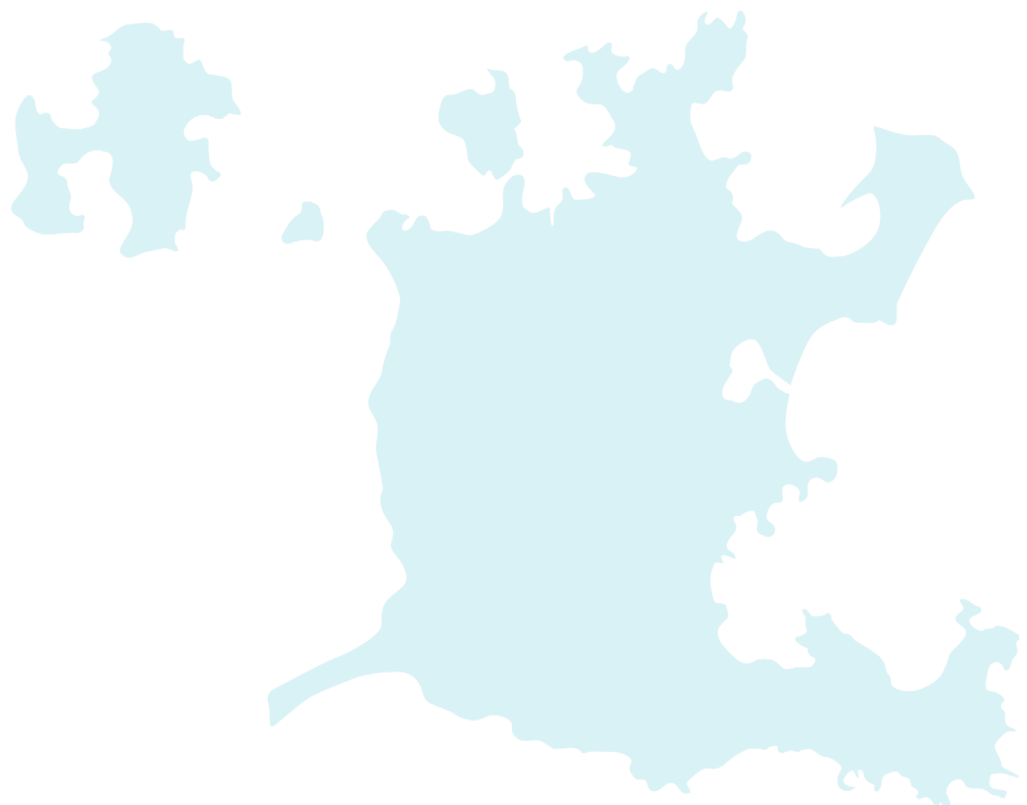
5. LDMA Housing

The Groote Archipelago LDMA includes the Housing Implementation Plan (Schedule 3.1). It aims to create a single, sustainable, diverse and culturally-appropriate community housing system under the control of Anindilyakwa people. A key step towards implementation of this plan was the registration in 2021 of the Anindilyakwa Housing Aboriginal Corporation (AHAC) as a Community Housing Provider under the National Regulatory Framework. It includes a joint NTG/ALC-funded capital works program for housing and associated infrastructure to address overcrowding, provide serviced land and upgrade existing dwellings. This includes a Housing for Health program for all community housing. The objective is to build 76 new houses as guided by the agreed Groote Eylandt Housing Master Plan with an expectation of reducing overcrowding by at least 30% over the life of the LDMA. Along the way there is to be a gradual transition of all NTG public housing in the Groote Archipelago to AHAC management, and a further transition of community housing that is managed by other organisations by negotiation.

To support strategic thinking behind this plan and provide measures of the scale and composition of housing needs, this profile attempts to quantify the trajectory of change in the housing circumstances of Indigenous residents of the Groote Archipelago since the mid 2000s. This has been a period of considerable activity in terms of investment in community and other housing, culminating in the arrangements outlined above. The question, is, what impact has all of this had on the supply, adequacy and suitability of housing stock and how does this vary between communities?

To answer this question, we draw on a variety of public data sources but make the general observation that access to consolidated, comprehensive and systematic data on housing has been diminished over time and is now difficult to obtain. A major drawback has been cessation of the Aboriginal and Torres Strait Islander Commission (ATSIC) sponsored Community Housing and Infrastructure Needs Survey (CHINS) that last operated in 2006 as a preliminary to the ABS Census of that year. This provided 5-yearly detailed assessments of the adequacy and functionality of all community housing and related infrastructure at even the smallest of locations. Having said that, in attempting to acquire detailed data from NIAA for each locality in the Groote Archipelago in 2006 to use as a baseline (NIAA is now the data custodian for the CHINS unit record file), problems of confidentiality arose due to small cell counts. As a consequence, only data for the whole Archipelago were able to be accessed. In its place, the only regular public source of housing data now available is the national census and this is not wholly up to, or even designed for, the task of identifying housing infrastructure needs. Another problem that has developed since the days of ATSIC, is that the transfer of housing management to NT jurisdiction has resulted in housing data being more transactional to do with tenancy management, rather than social to do with community planning. Consequently, piecing together the patchwork of available data sources has proved to be no easy task and the LDMA proposal to incorporate community housing and the satellite communities under a single AHAC management model establishes a basis to improve this situation. Nonetheless, what we have from the 2006 CHINS and subsequent census data does furnish some insight into changes in housing stock, tenancy arrangements and occupancy levels over the past 15 years and, combined with other administrative data sources, it is sufficient to provide a useful narrative.

Occupied dwellings

As mentioned, the only consistent and comprehensive source of data on housing over time is the national census. This defines Indigenous housing as any dwelling with an Indigenous occupant. Over the past 15 years, it shows that the number of dwellings across the Groote Archipelago that are occupied by Indigenous residents has increased substantially from 233 in 2006 to 355 in 2021 (Figure 5.1). By contrast, the number of dwellings occupied by other Groote residents (mostly in Alyangula) has gradually declined.

Figure 5.1 *Number of private dwellings occupied by Indigenous and other residents: Groote Archipelago, 2006–2021*
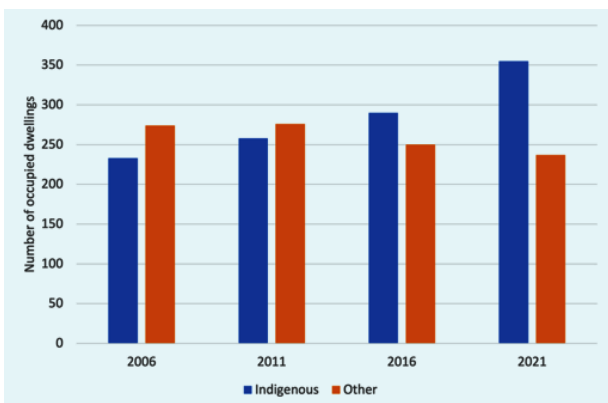
Source: ABS Census of Population and Housing.

In 2021, the vast majority of the 355 dwellings occupied by Indigenous residents (292 or 82%) were public community housing properties and most of these in 2002 (264) were managed under the NTG remote public housing framework (Table 5.1) and are in scope for transition to AHAC management via the LDMA. Of the remaining dwellings, 22 are community housing properties located at one of the several satellite communities and currently being transitioned to AHAC. This leaves a total of 69 other dwellings with Indigenous occupants that were presumably either government or company-owned or held under some other form of tenure. Almost half of these (26) were in Alyangula and 11 were in Angurugu. It is not clear where the other 32 Indigenous occupied dwellings identified by the census were located.

It is interesting to compare these housing stock figures with those from the 2006 CHINS. In 2006, the community housing stock was managed by local Indigenous community councils and a total of 238 such dwellings were identified meaning that the community housing stock has increased by just 11% since that time. The number of two-bedroom dwellings has increased the most (from 21 to 66); there are now slightly more three-bedroom dwellings

Table 5.1 *Department of Families, Housing and Communities community housing dwellings in Angurugu, Umbakumba and Milyakburra, September 2022*

	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom	5 Bedroom	Total
Angurugu	1	46	93	18	1	159
Milyakburra	–	8	15	7	1	31
Umbakumba	–	12	45	17	–	74
Total	1	66	153	42	2	264

Source: NTG Department of Families, Housing and Communities.

than before (153 compared to 147), and the same for larger 4/5-bedroom dwellings (44 compared to 39). However, in 2006, a total of 65 dwellings were in need of major repair and 27 required demolishing and replacing. In other words, as much as 39% of the housing stock in 2006 was unfit for habitation. Given the substantial amount of funding that has gone into housing in the Archipelago since 2006 it is to be expected that this situation would now be rectified. However, quite what the current situation is in this regard is unclear owing to a lack of data as we shall see.

Before considering this further, it should be noted that all the above census figures refer only to occupied dwellings. At the 2011 Census, a total of 67 dwellings across the main communities and satellite settlements were unoccupied; in 2016 it was 57 and in 2021 it was 65. In contrast, only 12 of the 264 properties managed by the NTG Department of Families, Housing and Communities were recorded as vacant. The discrepancy here may reflect the fact that the Census is a point-in-time record of occupancy whereas administrative records are more tenancy-based and less a reflection of who actually resides in a dwelling at a given time. Which of these counts provides the more useful measure of housing utilisation is a moot point.

Since the mid 2000s, major effort to improve the community housing stock has been provided by a variety of joint Commonwealth/NTG housing initiatives commencing with the SIHIP Strategic Indigenous Housing and Infrastructure Program (in 2009 which delivered 80 new houses in the Groote Archipelago (66 after accounting for demolitions), as well as 43 rebuilds and 60 renovations by 2013 (ALC 2012: 63). Subsequent ongoing investment in housing in Angurugu, Umbakumba and Milyakburra has been enabled by the Township Leasing arrangements and various iterations of the National Partnership Agreement on Remote Indigenous Housing (NPRH). In addition, local

Aboriginal Corporations such as Anindilyakwa Royalties Aboriginal Corporation, GEBIE and Aminjarrinja Enterprises have all been involved in funding or constructing new community housing, including in satellite communities. All new builds underway since 2019 now fall under the LDMA Housing Implementation Plan with a total of 13 currently across the three main communities.

Unfortunately, the net effect of this construction activity on the community housing stock cannot be separated from other Indigenous-occupied dwellings using census data. However, there has clearly been an increase in the overall number of Indigenous-occupied dwellings in each community over the past 10 years as shown in Figure 5.2. While this increase has been greatest in Angurugu, the rate of increase in occupied dwellings has been most evident in the satellite communities where the housing stock has more than doubled, albeit from a low base.

Figure 5.2 *Number of private dwellings occupied by Indigenous residents: Groote Archipelago communities, 2011–2021*
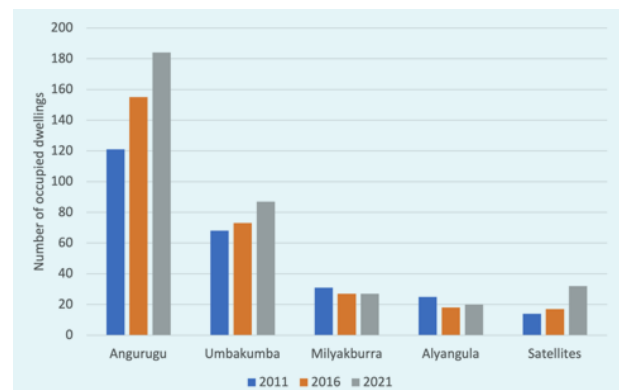
Source: ABS Census of Population and Housing.

Tenure arrangements

The Remote Community Housing program (RCH) in Angurugu, Umbakumba and Milyakburra is currently managed under NTG's remote public housing framework. The RCH is on sub-leases to the Township Lease currently held by the Commonwealth Executive Director

of Township Leasing. At the time of writing, the ALC was negotiating to transition to a community-held township lease. While the NTG is not a party to these negotiations, its sub-leases will transition to any new model. In the satellite communities of Bartalumba Bay, Little Paradise, Malkala and 4 Mile, there are around 22 houses that are currently serviced by GEBIE Aboriginal Corporation. However, the housing is not on leases and is under the ownership of the Aboriginal Land Trust and Traditional Owners. There are also around 17 new houses that, under funding by Anindilyakwa Royalties Aboriginal Corporation, have either been completed or are under construction and are due to be completed. The ownership of those houses will transition to the AHAC. The NTG currently provides limited financial support for housing and municipal and essential services via its Homelands services programs. As part of the Township Leasing negotiations to transition to a community held model, the ALC is also seeking to extend the township lease to include satellite communities. The ALC considers that these new leasing arrangements, coupled with the establishment of a registered community housing provider for the Groote Archipelago, presents an opportunity to bring the RCH and satellite community housing under a single and consistent management system.

Overcrowding

Given the extent of new housing development over recent years, and the slowing down of population growth, it would be reasonable to expect a significant reduction in housing overcrowding. There is no single standard measure of overcrowding. However, the criteria that are generally used in Australia, and those followed by the ABS, are based on the Canadian National Occupancy Standard for housing appropriateness. This accounts for both household size and composition and it determines the bedroom requirements of a household against the following criteria:

- there should be no more than two persons per bedroom
- children less than five years of age of different sexes may reasonably share a bedroom
- children less than 18 years of age and of the same sex may reasonably share a bedroom
- single household members 18 years and over should have a separate bedroom, as should parents or couples and
- a lone person household may reasonably occupy a bed sitter.

Based on these indicators, the ABS introduced a new census output variable indicating the number of overcrowded dwellings in 2016. Results for that year are compared with those for 2021 for each community in the Groote Archipelago in Tables 5.2 and 5.3.

Table 5.2   *Overcrowded dwellings with Indigenous residents: Groote Archipelago communities, 2016*

Location	Overcrowded dwellings	Total occupied dwellings	% of dwellings overcrowded
Angurugu	77	155	49.6
Angurugu satellites	4	17	23.6
Umbakumba & satellites	46	73	63.1
Milyakburra	13	28	46.2
Alyangula	3	18	16.6
Total	143	291	49.1

Source: ABS Census of Population and Housing.

Table 5.3 *Overcrowded dwellings with Indigenous residents: Groote Archipelago communities, 2021*

Location	Overcrowded dwellings	Total occupied dwellings	% of dwellings overcrowded
Angurugu	78	184	42.4
Angurugu satellites	15	23	65.2
Umbakumba & satellites	38	96	39.6
Milyakburra	0	27	0.0
Alyangula	0	20	0.0
Total	131	350	37.4

Source: ABS Census of Population and Housing.

In 2016 (Table 5.2), the overall level of overcrowding was substantial with almost half of all dwellings requiring additional bedrooms according to national occupancy standards. By any definition, the housing need in all locations (except Alyangula) was high. This was especially so in Umbakumba and its satellite settlements where almost two-thirds of dwellings were overcrowded. By 2021 (Table 5.3), while the overall level had fallen, more than one-third of dwellings were still overcrowded. Clearly, some improvement had been made in Umbakumba but the number and proportion of overcrowded dwellings in Angurugu remained effectively the same as it had been in 2016, despite there being substantially more occupied dwellings. Equally, overcrowding increased in Angurugu satellite settlements, again despite having more housing.

The occupancy calculation provided by the ABS also indicates how many additional bedrooms would be required to achieve national standards. Figure 5.3 shows the number of Indigenous dwellings in each of the main communities requiring extra bedrooms against these criteria. It also shows the number of dwellings that have surplus bedroom

capacity against the same measure, as well those with no need or spare capacity. As expected, Angurugu stands out as having the greatest housing need with a total of almost 80 dwellings requiring additional bedrooms. Umbakumba and its satellite communities is next, with a requirement for almost 40 dwellings, followed by Angurugu satellites. Milyakburra reports no extra need as most of its dwellings have surplus capacity. Ironically, Angurugu, with most housing need, also has the highest number of dwellings with most surplus capacity (43). A similar offset is evident at Umbakumba. Overall, across the Archipelago, a total of 95 dwellings have spare capacity.

Figure 5.3 *Number of Indigenous dwellings needing extra bedrooms and bedrooms spare: Groote Archipelago communities, 2021*
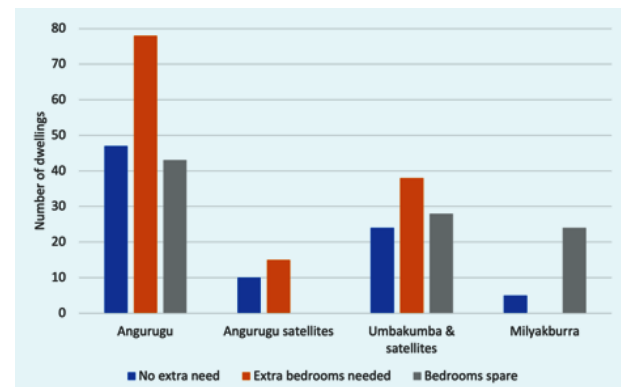
Source: ABS Census of Population and Housing.

To convert these numbers into actual bedrooms required, or that are spare, the ABS indicates how many additional or surplus rooms apply to each dwelling. A slight issue arises in attempting to calculate this, since the top category reported is open-ended at 4+ bedrooms. To deal with this we follow Treadgold's (1988) method for income calculations by assuming that the average bedroom requirement for this category is one-and-a-half times the lower limit.

Not surprisingly, the results show a direct relationship between numbers of people resident in a dwelling and the need or otherwise

for more space. With these data we can calculate the overall scale of additional and surplus capacity for each location. The results are shown in Figure 5.4. Once again, Angurugu stands out with the greatest housing need requiring almost 180 extra bedrooms to reach national occupancy standards. Umbakumba falls considerably behind but still requires almost 60 extra bedrooms, and Angurugu satellites are not far behind that with a need for almost 40. On these figures, no need exists at Milyakburra, instead there is spare housing capacity equivalent to almost 50 bedrooms. Altogether, a total of 268 extra bedrooms are required across the Archipelago.

Figure 5.4 *Number of extra bedrooms needed and bedrooms spare: Groote Archipelago communities, 2021*
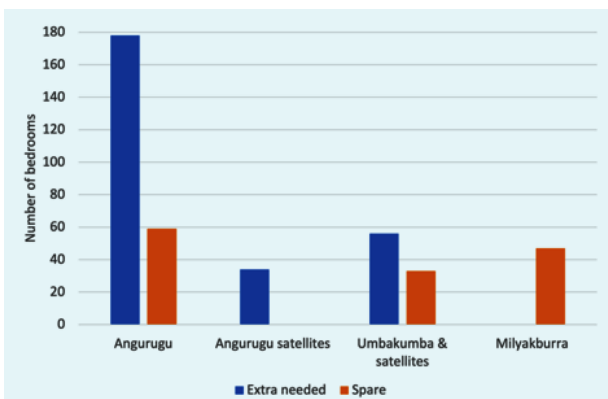
Source: ABS Census of Population and Housing.

A degree of surplus capacity in all locations is indicated by Figure 5.4. In total, this amounts to 92 bedrooms. While it might be tempting to subtract this from bedroom need to derive a net calculation, this could be misleading since bedroom capacity is a fixed asset attached to each dwelling. At best, it might provide a measure of the potential impact of redistributing people across available housing stock, but far more information would be required to assess the utility and appropriateness of such a strategy. This raises an important point about an apparent contradiction between the substantial expansion of housing stock, on the one hand, and continuing high levels of overcrowding,

on the other. Part of the explanation lies in the fact that social groupings attached to each dwelling vary in size and composition. Figure 5.5 shows the number of persons per dwelling in community rental properties and reveals that half of all dwellings have just four or less residents with a long tail having six or more, some with as many as 16 and 19. From the 2021 Census, we can calculate that more than two-thirds (68%) of these larger households are comprised of multiple families. Altogether, there were 93 dwellings across the Archipelago occupied by multiple families in 2001, and two-thirds of these were in Angurugu.

Figure 5.5 *Distribution of residents per community rental dwelling: Groote Archipelago, 2022*
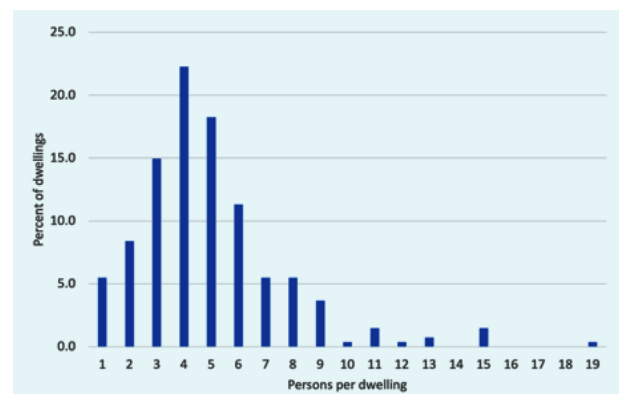
Source: Anindilyakwa Data Unit housing and population survey.

It is worth recalling that these overcrowding data refer to usual residents only and take no account of any pressure on housing that might be exacted by visitors to dwellings drawn from the wider Anindilyakwa service population. Studies elsewhere have shown that population numbers and pressure on housing can rise substantially for short periods due to an influx of people, especially – in the case of Arnhem Land – for funerals (Taylor 1998: 130–34; Morphy 2002: 51).

There is also the perennial question of who exactly resides in each dwelling at any given time and how this may vary due to extended family living arrangements. In September 2022, NT Housing reported a total of 1,015 clients

in its community housing –amounting to just 65% of the population (592 in Angurugu, 312 in Umbakumba and 111 in Milyakburra). The 2021 Census reported a higher population than this, as did the ALC survey, with the latter recording people attached to more than one dwelling. Partly, this depends on how residents are defined, but it also highlights the difficulty of establishing consistent measures of housing need in a situation where the population is internally mobile both within and between communities.

Housing for health

Of course, the notion of housing adequacy extends far beyond mere measures of occupancy to include what has long been identified as the all-important consideration – that of the habitability of dwellings and the presence and functionality of related environmental health infrastructure, including housing suitable for disabled residents (Pholeros et al. 1993). Returning to the abolition of the CHINS, this signalled a long-term decline in the amount and quality of data available for assessment of housing and infrastructure needs and for the public monitoring of program impacts. What we have now in regard to such data is a long way from the former ATSIC regional planning approach that promoted the Housing for Health model of population-based data-driven health hardware monitoring and improvements as essential underpinnings of service delivery and community planning (http://www.housingforhealth.com/). As we have seen, 39% of community-controlled dwellings in 2006 were considered uninhabitable. Exactly what the current situation is remains to be established.

As matters stand, it is not possible to report on change in the presence and functionality of environmental health hardware for all dwellings across the region, since the comparative data required for such an exercise no longer exist. This is despite the co-option of housing

for health rhetoric into policy funding and discourse (see Lea and Torzillo 2016). Ironically, the LDMA Housing Implementation Plan includes a Fixing Houses for Better Health program to be delivered by AHAC and Healthhabitat, but this had been delayed by the time of the current project and so data from this exercise were unavailable for inclusion in the profile. Acquisition of these data is a high priority for community planning and no doubt they will be integrated into future community profile updates.

At present, AHAC advise that 4 dwellings at Angurugu have recently been renovated and 16 are about to be renovated along with 13 dwellings at Umbakumba. In addition, 13 new houses are about to be constructed, 3 each at Angurugu and Umbakumba and 7 at Milyakburra. Beyond that brief profile, there is little else publicly available to assess the current depth of housing need compared with the baseline conditions of 15 years ago.

Key findings: LDMA Housing

- The community-controlled and managed housing stock in 2006 amounted to 238 dwellings.
- In 2006, 39% of the community-controlled housing stock was uninhabitable.
- Present estimates of habitability are yet to be determined.
- In 2022, the number of dwellings managed by the NT Remote Community Housing program was 264 – an increase of just 11% since 2006.
- The number of Indigenous occupied dwellings in the Archipelago as defined by the census has increased by more than 50% over the past 15 years, from 233 in 2006 to 355 in 2021.
- In 2021, three quarters of these Indigenous occupied dwellings were managed by the NT Remote Community Housing program. The tenure status of

the remaining 91 Indigenous occupied dwellings is unclear.

- The percentage of census-identified dwellings that are overcrowded declined from 49% in 2016 to 37% in 2021. This means that 131 dwellings with Indigenous occupants are still overcrowded. Most of these dwellings (78) are in Angurugu, 38 are in Umbakumba and 15 in satellite settlements.

- A total of 268 extra bedrooms are required to meet national housing occupancy standards.

- At the same time, 95 dwellings have surplus capacity.

- The contradiction between growth in available dwellings, surplus capacity and persistent overcrowding is partly explained by the uneven distribution of social/family groupings across the housing stock.

- There is a serious lack of comprehensive, systematic and time series data on available housing stock, its tenure and functionality in terms of environmental health and disability needs.
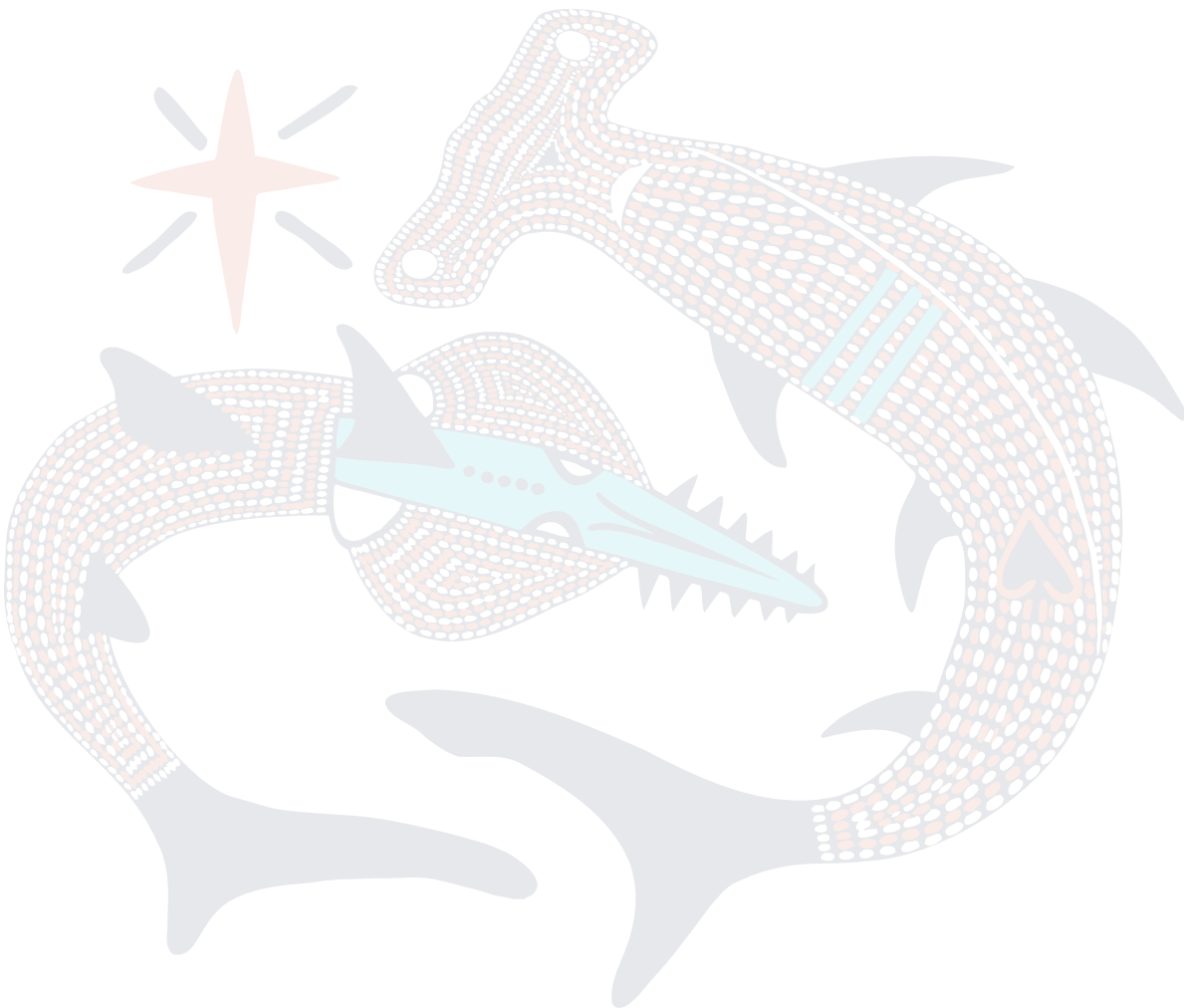
6. LDMA Health

At the time of writing, The Groote Archipelago LDMA Health and Wellbeing Implementation Plan was close to finalisation between the NTG, represented by the Department of Chief Minister and Cabinet, NT Health, the ALC and Warnumamalya Health Services Aboriginal Corporation. The objectives of this plan are to identify the services and priorities that the Anindilyakwa people wish to have control over and take responsibility for, and they commit the NTG to collaborating with the ALC, including in the sharing of information, to agree on how this control is to be achieved. The agreed outcome for health and wellbeing is to increase the involvement, capacity and leadership of Anindilyakwa people in the health and wellbeing sector and to support their long-term aspiration of transitioning to community control and responsibility. In order to support ALC strategic thinking towards this goal, data on population health data have been accessed to establish recent trends and outcomes in the health status of Indigenous residents of the region.

Information on the health status of Indigenous residents of the Groote Archipelago is gathered as a matter of course in the day-to-day operation of the health care system and a time-series of health indicators was compiled by the NTG Department of Health from hospital and island-based clinic records variously covering the period 2001 to 2021. The analysis of health is therefore mostly focused on high-level Tier 1 type measures of population health status and outcomes as per the Aboriginal and Torres Strait Islander Health Performance Framework (AIHW 2020). This includes the prevalence of health conditions (e.g., circulatory disease, diabetes), human function (e.g., disability), and mortality. Many elements of Tier 2 measures from the Health Performance Framework that focus on the determinants of health, particularly those concerned with socioeconomic status, are provided in the main

body of the community profile. Tier 3 measures that focus on health system performance are not included.

Childhood health and mortality

Of particular interest as a measure of development outcomes is the rate of childhood mortality (deaths among those aged 0–4 years). For this reason, halving the national gap in child mortality rates between Aboriginal and non-Aboriginal children by 2018 was one of the key planks of the original COAG Closing the Gap strategy and continues to be so. In situations of high overall mortality and relatively low life expectancy, as found among Australian Indigenous population, child mortality is also typically high and reducing the level is a major goal of public health interventions.

Internationally, high child mortality levels have been associated with poverty, the availability, accessibility and quality of health services, environmental health risks including access to safe water and sanitation, and poor nutrition (United Nations Children's Fund 2017). As for aetiology, in Australia perinatal conditions have accounted for a large share of causes, along with 'sudden and ill-defined conditions' (such as Sudden Infant Death Syndrome (SIDS)), 'congenital malformation', and 'injury and poisoning' (Australian Government 2014). While many health interventions can have a long lead-time before measurable impacts are seen, a number of intermediate measures provide an important barometer of likely improvement in child and maternal health – such as increased adoption of antenatal care programs, reductions in the rate of maternal smoking during pregnancy, reductions in low birthweight babies, and increases in immunisation rates. These typically form outcomes that arise from the many public health activities conducted through NT Health clinics in the Groote Archipelago.

Notwithstanding the importance of childhood mortality as a leading indicator of health outcomes, we have seen by comparing Figures 2.11 and 2.12, that there is some doubt over the true level of childhood mortality in the Groote Archipelago. The official data provided by ABS show a total of 12 childhood deaths between 2001 and 2010 but none since that time. On the other hand, data provided by the CSP on local burials indicate a total of six childhood deaths over the 3-year period alone between 2019 and 2021. Such discrepancy underlines a pressing need for local monitoring and recording of demographic events.

Low birthweight (newborns weighing <2,500 grams) is associated with being born early (pre-term) or being small for gestational age. It is a widely-used proxy measure of fetal growth. Low birthweight infants are at greater risk of dying during their first year of life and they are prone to ill health in childhood and the development of chronic diseases as adults, including cardiovascular disease, high blood pressure, kidney disease and type 2 diabetes (AIHW 2017: 20). Figure 6.1 shows the change in the number and proportion of all liveborn infants in the Groote Archipelago with low birthweight since 2001. Clearly, the number of low birthweight infants has declined, especially between 2001–05 and 2006–10. This is mostly due to the decline in the overall number of births. There is less evidence to indicate any shift in the proportion of liveborn births with low birthweight with the rate hovering between 19% and 23%.

Figure 6.1 *Proportion of Indigenous liveborn infants with low birthweight*: Groote Archipelago, 2001–2020*
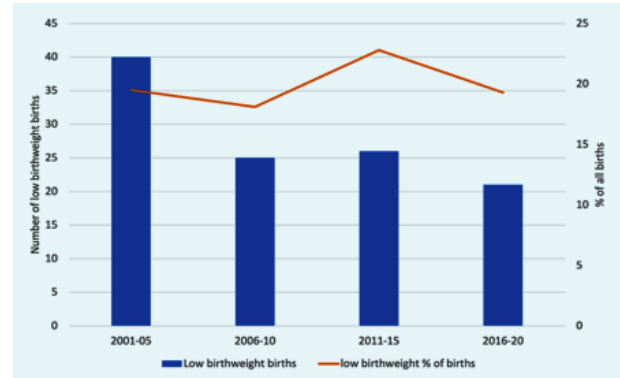
*Less than 2500 grams.

Source: NT Health.

Perinatal data on the number of births to mothers who were resident in the Groote Archipelago who smoked in the first 20 weeks of pregnancy has been made available by NT Health for the periods 2011–2015 and 2016–2020. The data are grouped in this way for reasons of confidentiality. Data prior to 2011 are either not reliable or not available. In 2011–2015 a total of 81 such births were recorded. This fell to 64 during 2016–2020. Part of the reason for this decline was a drop in the overall number of births from 114 to 109. However, the primary reason was a decline in the smoking rate among mothers.

Overall, the smoking rate among mothers has declined from 71% to 59%. This is still a very high rate – in Australia as a whole in 2020, the percentage was just 9% (AIHW 2022). Figure 6.2 shows the distribution of these rates by maternal age. Several features stand out. First of all, the decline in the smoking rate has been at all ages; nonetheless, rates at all ages remain high and still account for more than half of all mothers regardless of age. Second, the highest rates of smoking have been, and still are, among older mothers. Third, while there is now less variation by age, smoking among the youngest mothers (15–24) where most births remain concentrated, is still higher than among those in the next age group (25–34).

Figure 6.2   *Percent of births to Indigenous mothers who smoked during the first 20 weeks of pregnancy: Groote Archipelago, 2011−2020*
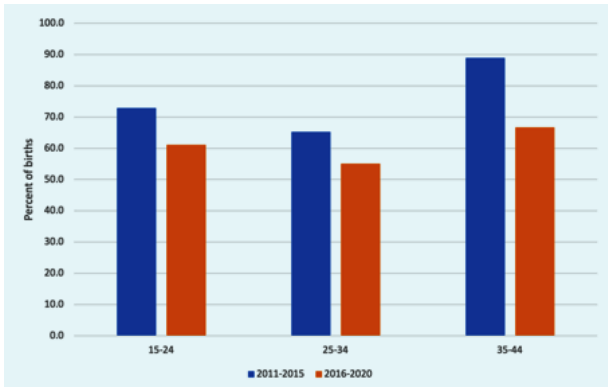
Source: NT Health.

Failure to Thrive (FTT) prevalence refers to the proportion of neonates who have been hospitalised at a later date with a diagnosis of malnutrition. This prevalence fell from 12% in 2006−2010, to 6% in 2011−2015 and 5% in the most recent period of 2016−2020.

Hospitalisation data

Data were provided by NT Health indicating the hospitalisation rate (per 10,000 separations) for conditions that were in the top 10 causes in four time periods between 2001 and 2020. These data were presented according to the International Classification of Diseases (ICD-v.10) 'Chapter' which indicates the broad disease category, and ICD-v.10 'Block Code' which indicates more specific causes.

Overall, in each of the four periods since 2001, the overwhelming cause of hospitalisation has been 'Factors influencing health status and contact with health services'. To a large extent this has involved dialysis, but it also includes hospitalisations for medical examinations, communicable disease exposure, circumstances related to reproduction, specific procedures, and substance abuse. Figure 6.3 shows the change in separation rates for a selection of the other leading causes. It should be stressed that these rates are not age-standardised.

For each of these leading causes of hospitalisation, rates are higher now than 20 years ago, except in the case of genitourinary diseases which include renal failure. At the same time, hospitalisation rates for endocrine and nutritional diseases have increased the most and these include diabetes. Rates for external causes are also notably higher. This category includes transport accidents, assaults and intentional self-harm. Rates for circulatory and infectious diseases have steadily risen, and although the rate for respiratory disease fell during 2006−10, it is now much higher.

Figure 6.3 *Indigenous hospitalisation rates by select ICD-10 Disease Chapter: Groote Archipelago, 2001–2020*
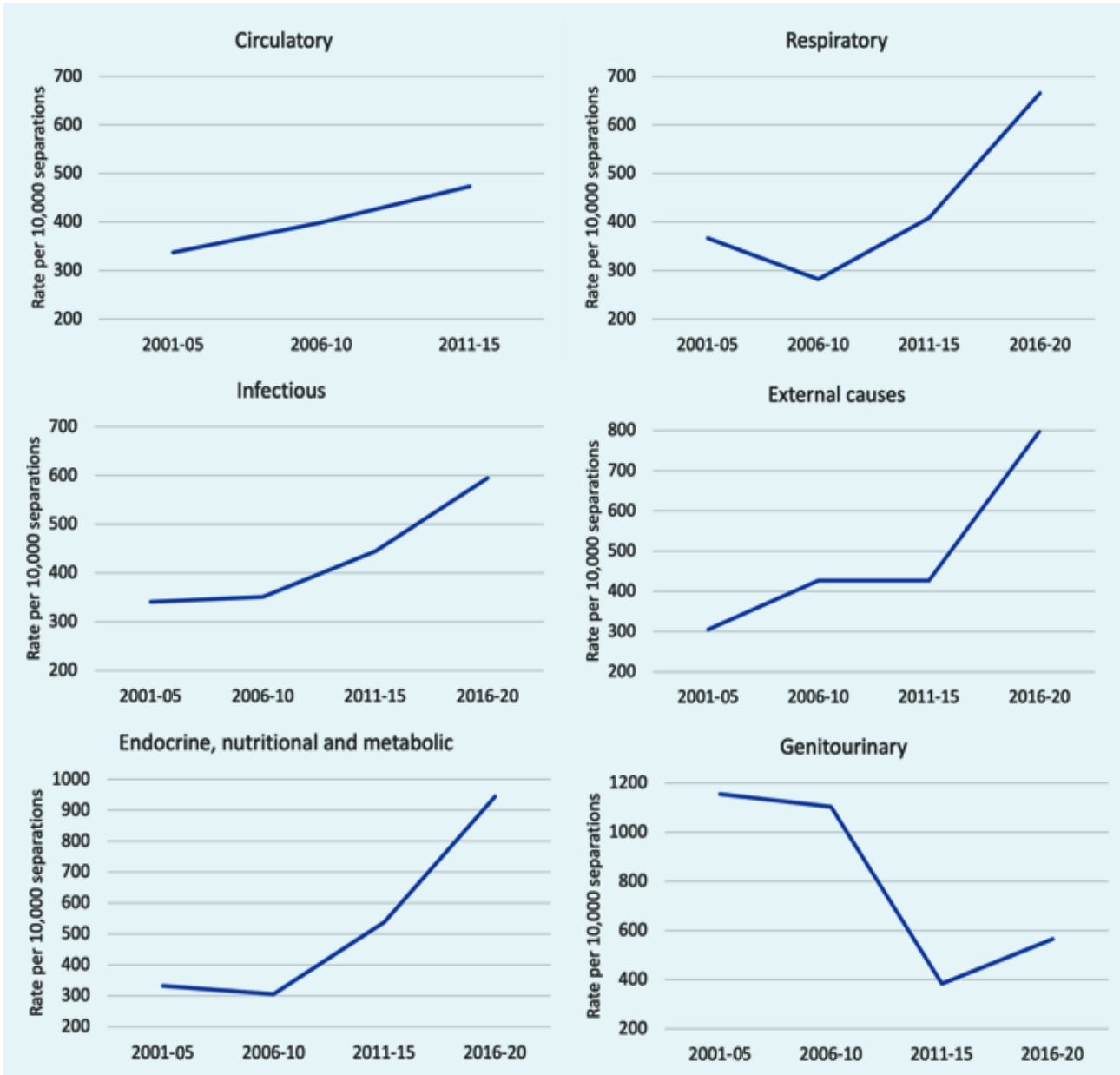
Source: NT Health.

Figure 6.4 shows the more specific leading causes of hospitalisation for conditions that were in the top 10 causes in at least two time periods using ICD 10 Block Codes. For both males and females, chronic kidney disease and dialysis represent a high rate of hospitalisations. Across each time period, females have higher rates due to these conditions, with a marked increase in the latest time period. In 2016–2020, these conditions represented about one-quarter of female hospitalisations. Hospitalisations for patients without a known disorder also represent an important and increasing rate of hospitalisations for both males and females. In 2016–2020, for males the highest diagnosis code without this category was for problems related to lifestyle (e.g., ranging from lack

of physical activity to antisocial or high-risk behaviour to poor sleep patterns). For females, the highest code in this category was for other circumstances, which could include caring for a child or sick person or other unspecified circumstances. Finally, external causes, which include accidents and injuries, are an important and increasing source of hospitalisations for both males and females.

Figure 6.4 *Hospitalisation rate by ICD-10 Block Code: Indigenous residents of the Groote Archipelago, 2000–2020*
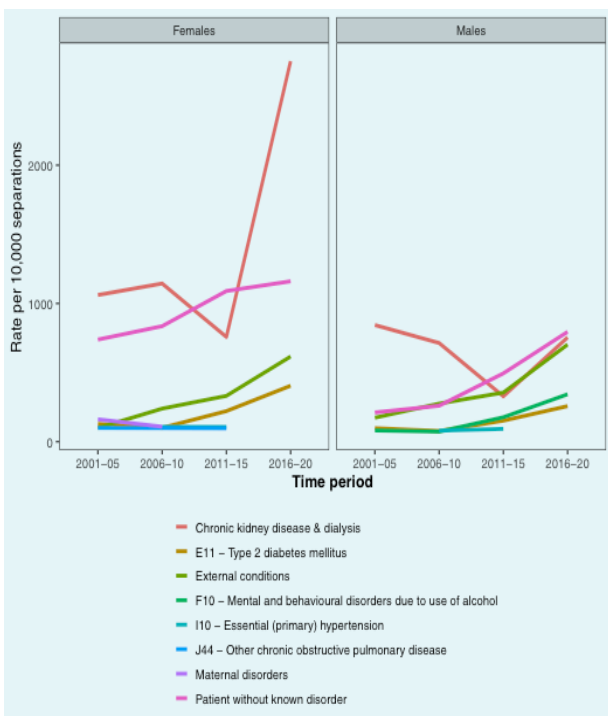
Source: NT Health.

One statistic that stands out in Figure 6.4 is the prevalence of mental and behavioural disorders due to alcohol. If we focus in on this issue, Figure 6.5 shows the number of alcohol-related hospitalisations for Indigenous residents of the Groote Archipelago over the periods 2001–10 and 2011–20. What is of interest here is the extent to which these numbers are the same for both males and females and how much they have equally risen. Between 2001 and 2010 there were a total of 174 alcohol-related hospitalisations involving 110 individuals, but this more than tripled to as much as 670

hospitalisations involving 311 individuals between 2011 and 2020.

Figure 6.5 *Alcohol-related hospitalisations: Indigenous males and females from the Groote Archipelago, 2001–2010 and 2011–2020*
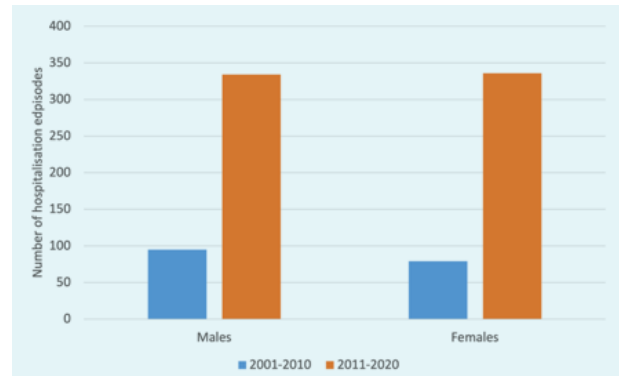
Source: NT Health.

It is worth reflecting on these numbers in light of the Groote Eylandt and Bickerton Island Alcohol Management System (GEBIAMS) that has placed tight controls over the sale of alcohol on-island since 2005. Evaluations of GEBIAMS have pointed to its success in reducing consumption levels and alcohol-related violence and other harms partly because of the isolation of the region from major liquor outlets (Conigrave et al. 2007; D'Abbs and Crundle 2019). This brings us to the data in Figure 6.5. If alcohol controls have worked on-island, then these figures showing substantial rise in alcohol-related hospitalisations for Groote Eylandt residents since the GEBIAMS must, to a large extent, be due to people consuming alcohol off-island when visiting places such as Darwin. In effect, an off-island problem with on-island impacts!

Another measure that has shown significant increase since 2001 is the number of hospitalisations due to intentional self-harm. Between 2001 and 2010, a total of 24 hospitalisations were recorded involving 19 individuals with slightly more females than males (Figure 6.6). In the more recent period, however, these numbers have increased substantially with hospital admissions for females rising to 42 involving 31 individuals

and male admissions increasing to 22 for 17 patients. Overall, this represents a 150% period-measure increase in the number of individuals hospitalised for intentional self-harm.

Figure 6.6 *Intentional self-harm related hospitalisations: Indigenous males and females from the Groote Archipelago, 2001–2010 and 2011–2020*
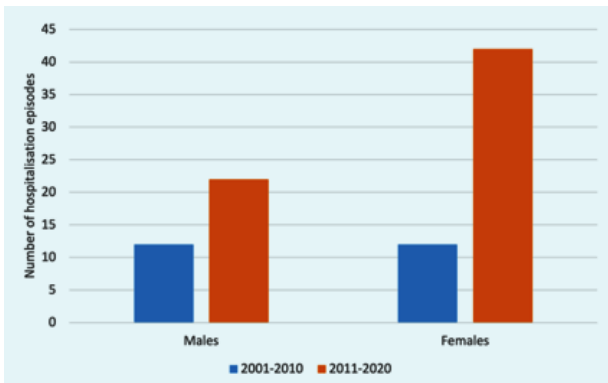
Source: NT Health.

Primary health data

Primary health care needs are serviced by four Primary Health Care Centres operated by the NTG Department of Health, one at each of Angurugu, Umbakumba, Milyakburra and Alyangula. In addition, since 2016, Miwatj Health has partnered with Purple House to provide a 2-chair nurse-assisted haemodialysis service in Angurugu. As part of NT Health's Chronic Conditions Prevention and Management Strategy, each of these clinics receive regular evidence base reports on chronic disease prevalence (Community Traffic Light Reports) to assist in clinical care. In addition, the 2021 national census includes, for the first time, data on self-reported long-term health conditions. These two sources provide the main basis for profiling primary health care needs.

Community Traffic Light data

Community Traffic Light report data were provided by the NTG Department of Health as a single report for the Indigenous population of the Groote Archipelago as a whole. This report identifies diagnosed preventable chronic diseases (PCDs) and expresses these as a proportion of the whole population as well as for specific age groups. The disease categories cumulated as PCDs for this purpose include: auto immune disorder (e.g. hypothyroidism, SLE), cancer, cardiovascular disease (e.g. high cardiovascular risk, ischaemic heart disease), chronic infectious disease (e.g. hepatitis B, crusted scabies), chronic kidney disease, chronic lung disease (e.g. asthma, COPD, bronchiectasis), chronic musculoskeletal disorder (e.g. osteoarthritis, chronic back pain), diabetes, disability, mental health disorder and rheumatic heart disease. Unfortunately, these data are not presented by gender.

Figure 6.7 shows the proportion of the Indigenous population with one or more PCDs for each year since 2016. Throughout this period around half of the population has had at least one chronic condition and the proportion has slowly risen over that time from 47% to 52%. Perhaps more striking is the relatively high proportion with three or more conditions – this has varied between one-fifth and one-quarter and now stands at 21%.

Figure 6.7 *Proportion of Indigenous population with one or more preventable chronic diseases: Groote Archipelago, 2016−2022*
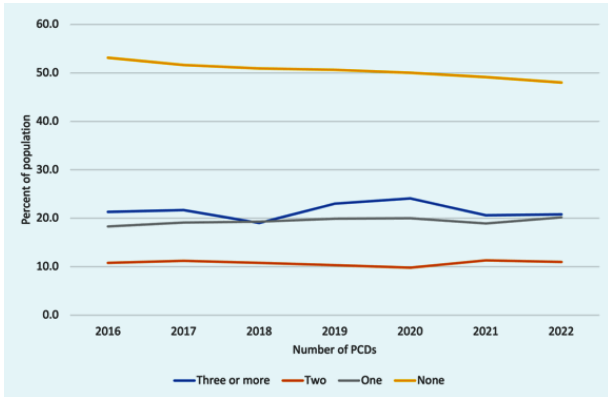
Source: NT Health.

Figure 6.8 explores the prevalence of PCDs by age. As to be expected, there is a direct relationship but what is most striking is the degree of early onset and high level of prevalence at early ages plus the fact that for most age groups prevalence has increased over time. Among infants, prevalence is steady at around 5%, but by the teenage years levels have already risen to include close to one-fifth of the population. By young adulthood one-quarter have at least on chronic condition and this rises rapidly to middle age such that by age 44 more than half of the population (58%) have a chronic condition. The steady rise continues through to those aged 55 and over where chronic disease prevalence is almost universal.
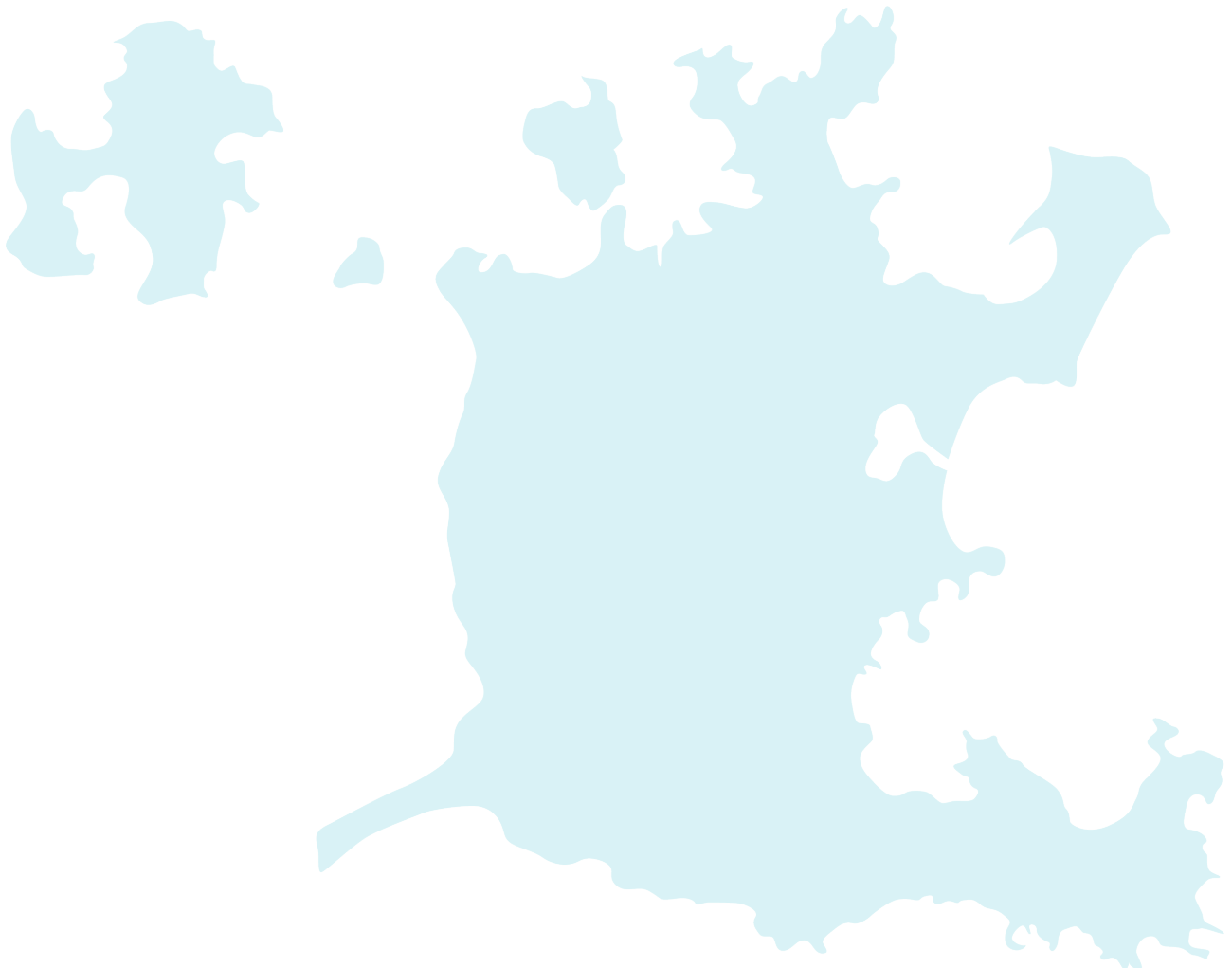
Figure 6.8 *Proportion of Indigenous population with preventable chronic disease by age group: Groote Archipelago, 2016–2022*
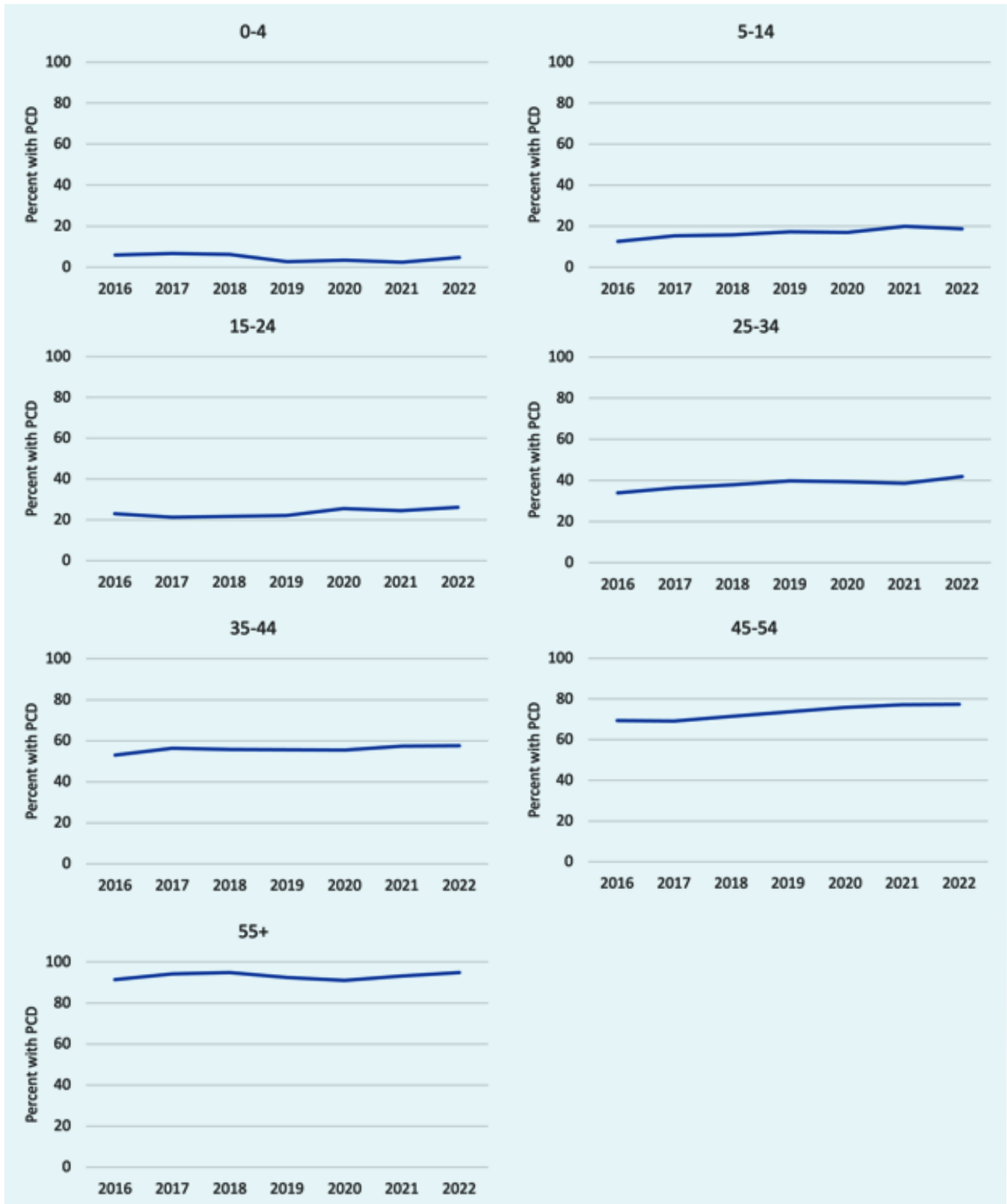
Source: NT Health.

As for the particular diseases that are responsible for these outcomes, Figure 6.9 shows those most prominent in hierarchical order. At the top of the list are cardiovascular disease and chronic kidney disease followed by diabetes all of which have risen noticeably in prevalence since 2016. In fact, cancer is the only preventable chronic condition that has not risen in prevalence; it is also the least prevalent of leading conditions.

Figure 6.9 *Proportion of Indigenous population with preventable chronic disease by disease type: Groote Archipelago, 2016–2022*
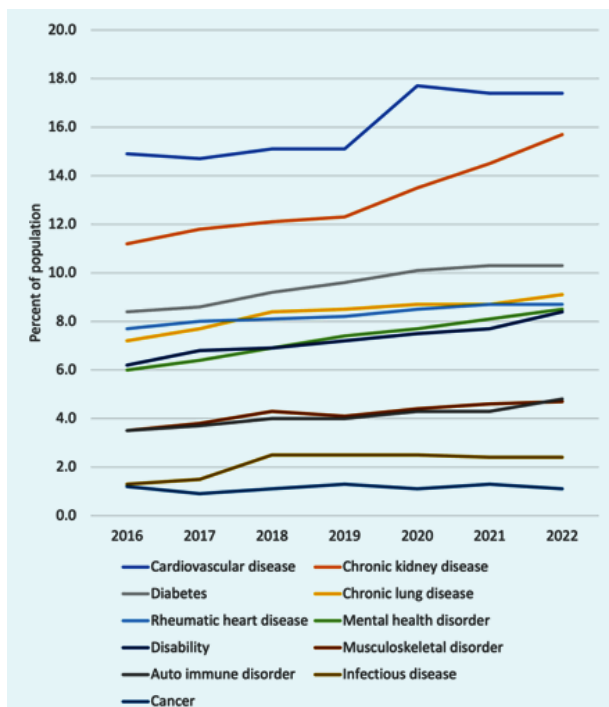
Source: NT Health.

In addition to these diagnosed conditions, the health promotion component of primary health care includes the SNAPE (smoking, nutrition, alcohol, physical activity, emotional wellbeing) assessment for persons aged 15+which informs interventions encouraging healthy lifestyles. Data from these assessments were provided by NT Health but for each of the SNAPE components there were high rates of non-assessment such that the data were difficult to interpret. For example, only 10% of persons aged 15+ indicated use of 'other' drugs consistently between 2006 and 2022, but an

average of 38% of people were not assessed. 'Other drugs' here excludes tobacco and alcohol but is assumed to include cannabis, which is interesting since rates of cannabis use in the Groote Archipelago have been found to be very high. From a random sample of Indigenous males and females aged 13-36 years in Arnhem Land (including the Groote Archipelago) in 2005-06, as much as 61% of males and 58% of females reported using cannabis at least weekly (Lee et. al. 2008). Overall, cannabis use was found to be endemic with 70% of males and 20% of females found to be users and 90% of those reporting symptoms of cannabis dependence (Lee at. al. 2009). Anecdotal evidence suggests that these rates are at least as high now in the Archipelago but there have been no follow-up studies. Facilitating such follow-up would seem to be an urgent task for the Health LDMA.

Self-reported long-term conditions

For the first time, the 2021 Census included information on self-reported long-term health conditions. These were conditions where respondents indicated they were told by a doctor or nurse that they had the condition (including those controlled by medication). Its main value lies in being a comprehensive indicator across the whole population (non-response rate for Indigenous respondents to this question in the Archipelago was 10%) that can be cross-tabulated with other census variables. For example, cross-tabulation between the prevalence of having a chronic health condition and labour force status found that employed Indigenous persons in the Archipelago were just as likely to have at least one chronic condition as those who were not in the labour force.

Figure 6.10 shows the prevalence of multimorbidity – the number of conditions reported – across the population. About 15% of Indigenous residents reported one or more conditions, with no differences in the

prevalence between males and females. Of these, the vast majority reported one condition compared to having two or more conditions. Immediately we can see a substantial discrepancy with clinic-based data with the latter indicating that half of the population have chronic conditions compared to just 15%.

Figure 6.10 *Multimorbidity prevalence of self-reported chronic health conditions (number of chronic conditions): Indigenous residents, Groote Archipelago, 2021*
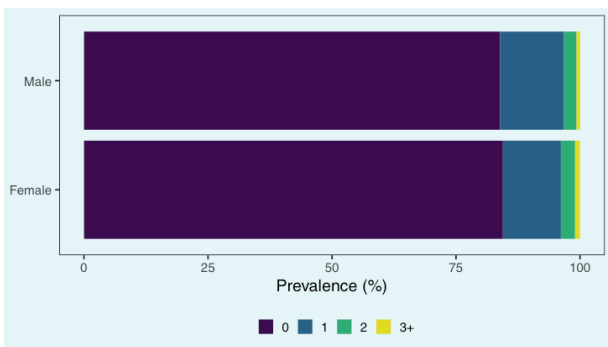
Source: ABS Census of Population and Housing.

Figure 6.11 examines the prevalence of specific conditions, noting as above that respondents could report more than one condition so these are not mutually exclusive. For males, the most prevalent reported condition was heart disease, followed by asthma, diabetes and mental health conditions. For females, heart disease and diabetes were most prevalent, followed by asthma. In both case, kidney disease was reported less than might be expected given the hospitalisation data shown in Figure 6.4 and clinic data in Figure 6.9.

The results shown in Figure 6.10 include the entire population. However, this is influenced by the age structure of the population as chronic conditions become more prevalent later in life. The following figures examine age-specific prevalence but are unable to report sex-specific estimates as these were not reported by ABS. Figure 6.12 shows the age-specific prevalence of any chronic condition in the population.

Figure 6.11 *Condition-specific prevalence of self-reported chronic health conditions: Indigenous residents, Groote Archipelago, 2021*
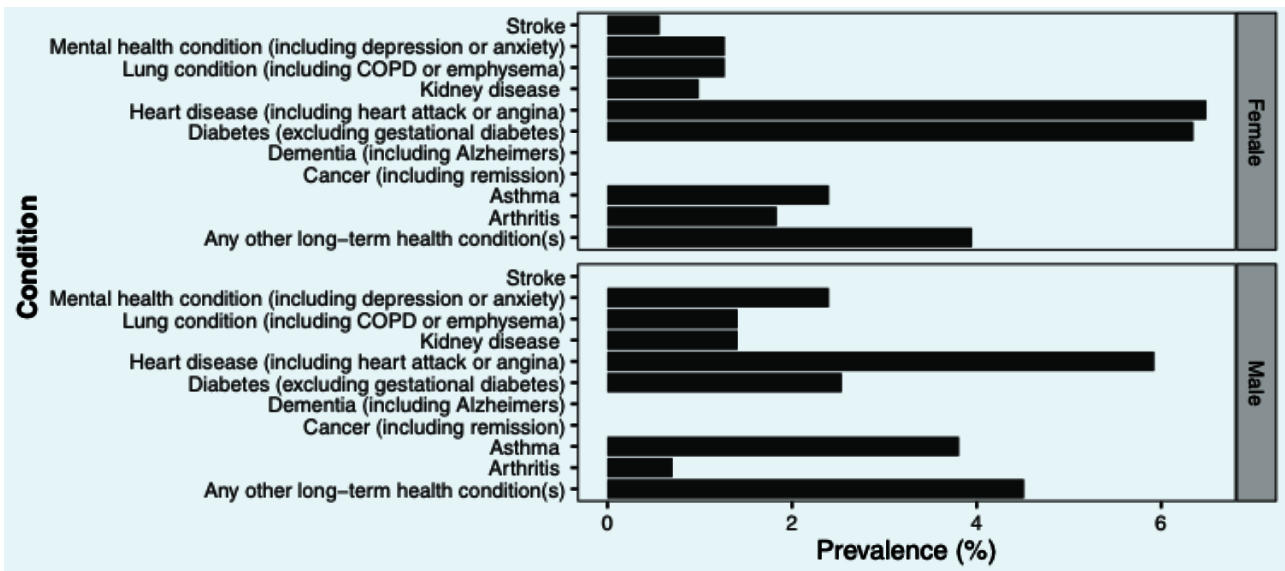
Source: ABS Census of Population and Housing.

The prevalence is low in younger ages and increases markedly from ages 45 and older. More than three out of every five people aged 65 and older reported having one or more long-term health conditions. Once again, age-specific prevalence is much lower at all ages than that reported by clinic-based data.

Figure 6.12   *Overall prevalence of any self-reported chronic health condition by age: Indigenous residents, Groote Archipelago, 2021*
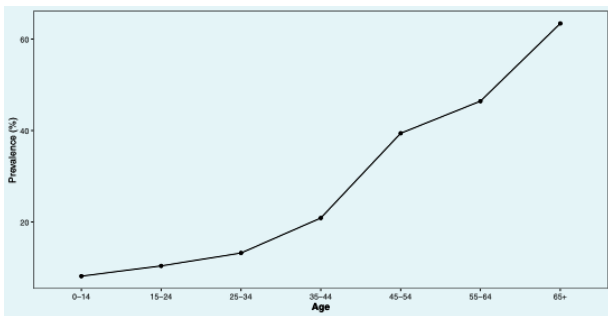
Source: ABS Census of Population and Housing.

Figure 6.13 examines the age-specific prevalence by chronic condition. Diabetes and heart disease both markedly increase in older ages, though the prevalence of heart disease is prevalent even in younger age groups (e.g., 6% at ages 15–24). The prevalence of asthma also increases with age, with almost one in five people aged 65+ reporting the condition.

Disability

Aside from the debilitating effects of chronic disease, one element of health status that can have a direct impact on the capacity of individuals to participate in economic activity is disability, defined as any continuing condition that restricts everyday activities. Such restriction can be due to an intellectual, cognitive, neurological, sensory or physical impairment, or a combination of these; it may be permanent or episodic in nature and it can result in substantially reduced capacity of individuals for communication, social interaction, learning or mobility and present a need for continuing support services.

Establishing a time series of Indigenous people in the Groote Archipelago with a disability is difficult using public access data. The main consistent source is the 5-yearly census that has included a question on disability since 2006. The census asks whether individuals need someone to help them with self-care activities, with body movement activities, and with communication activities. It then asks about the reasons for such needs such as short or long-term health conditions, disability or old age. From these answers it constructs a

Figure 6.13   *Age-specific prevalence of any self-reported chronic health condition: Indigenous residents, Groote Archipelago, 2021*

Source: ABS Census of Population and Housing.
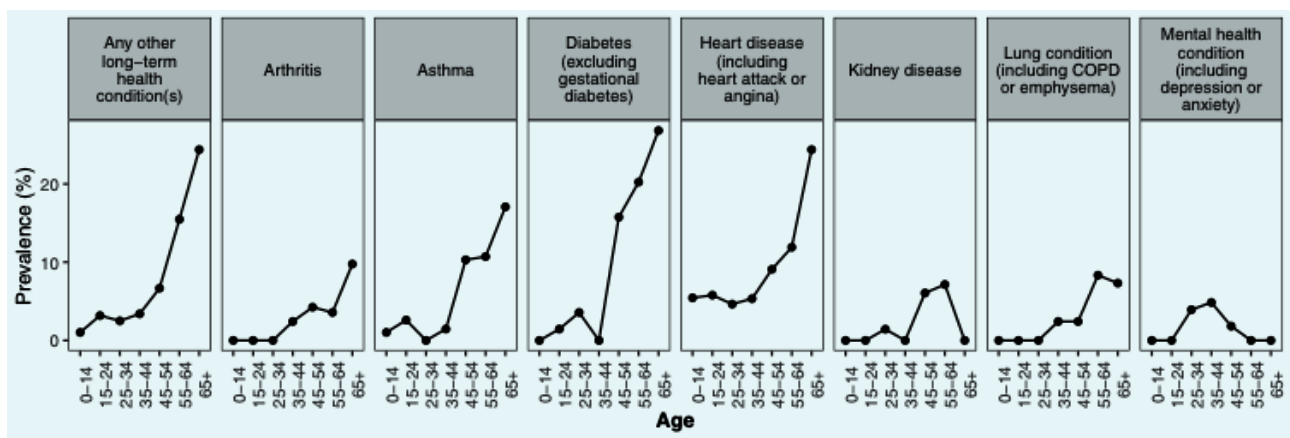
census output variable on 'core activity need for assistance' that captures profound or severe core activity limitation (and omits moderate and mild limitations) and we can use the results here to construct profiles and estimates of such disability for Groote Archipelago residents.

Unfortunately, the level of non-response to this census question can at times be high. In 2016, especially, non-response accounted for as much as 14% of those aged 15+ whereas in 2011 and 2021 the rate was much lower at just 3% and 6% respectively. We can therefore use the 2011 and 2021 data with some measure of confidence and estimate likely levels of disability by allocating non-responses to positive response categories on a pro rata basis. Table 6.1 shows the results.

Table 6.1   *Census rates and estimated levels of Indigenous persons with a 'core activity need for assistance': Groote Archipelago, 2011 and 2021*

	2011	2021
Census rate*	4.6	3.5
Estimated level	72	56

*Percent of 15+ excluding core activity need 'not stated'.

Estimates based on pro rata distribution of 'not stated' responses.

Source: ABS Census of Population and Housing 2011 and 2021.

In 2011, almost 5% of the population aged 15+ was estimated to have a 'core activity need for assistance' and this was lower in 2021 at 3.5%. In terms of numbers involved, this amounted to 72 persons in 2011 and slightly fewer in 2021 at 56 with almost equal numbers of females and males. An audit of disability in the Groote Archipelago conducted by the MJD Foundation (MJDF) in 2013 found that the 2011 Census figure was more than double the numbers recorded by the NT Health department and by the East Arnhem Shire Council, although both of these referred to a slightly narrower age range of 21–65 years (MJDF 2013: 50).

It is interesting to compare the estimate of 56 persons with a disability from the 2021 Census with the much higher figure of 113 adults in receipt of a Disability Support Pension from Centrelink in 2021 (Table 3.8). Aside from the likelihood of census undercount, this discrepancy may arise because the DSS administrative net around disability is more encompassing and includes moderate and mild disabilities compared to the census question which is focused on the more severe end of the disability spectrum. Nonetheless, the observation that the census-derived rate of disability has fallen since 2011 is of interest as it corresponds with the findings in Table 3.8 from DSS administrative data that show a substantial reduction in the number of payments over the past decade. At the same time, we should be reminded that the use of administrative data for benchmarking and tracking over time is always a challenge due to the potential impact of changes to eligibility rules and administrative practice.

While overall disability prevalence appears relatively low, this is not the case at all ages. Figure 6.14 shows conclusively that census-reported disability increases with age. While this pattern has held over the past decade, there does appear to have been some change in prevalence by age with all age groups apart from the oldest (65+) showing a decline. By contrast, the prevalence of 'need for assistance' has steadily increased among those over 65 years rising from 29% in 2011 to 39% in 2021. This trend is significant in the context of projected increase in the oldest age group of between 56% and 74% by 2036 as shown earlier in Table 2.3 depending on which projection series is used.

Figure 6.14 Prevalence of 'core activity need for assistance' by age: Indigenous population, Groote Archipelago, 2011, 2016 and 2021
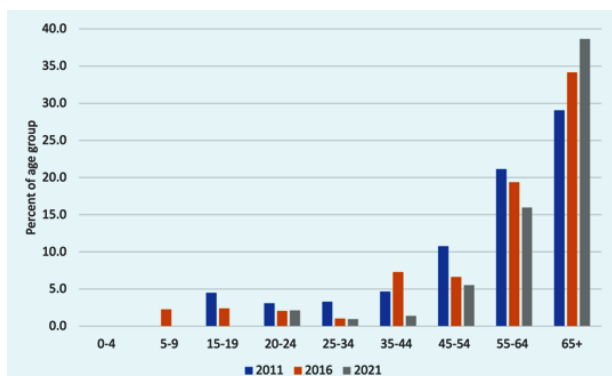
Source: ABS Census of Population and Housing 2011 and 2021.

If we examine this another way and look at the distribution of those with a census-reported disability across all age groups (Figure 6.15), we can see a growing concentration at older ages, especially over 55 years, and a corresponding reduction at younger ages (under 45 years), while the age at onset has also increased. There is every likelihood that this pattern may reverse in coming years as a next wave of MJD onset is anticipated, as we shall see.

Figure 6.15 *Age distribution of persons with a 'core activity need for assistance': Groote Archipelago, 2011, 2016 and 2021*
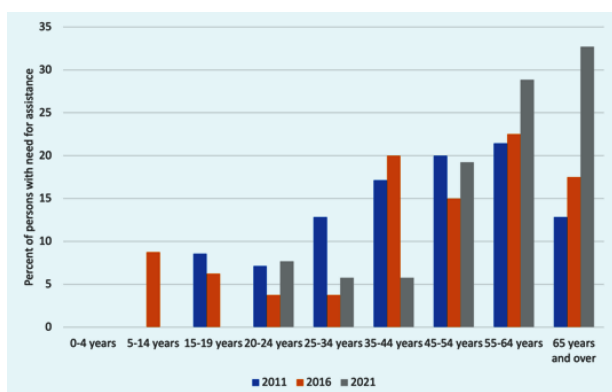
Source: ABS Census of Population and Housing 2011 and 2021.

Machado Joseph Disease

Machado Joseph Disease (MJD) is a hereditary neuro-degenerative disease. Each child of a parent who has MJD has an even chance of being born with the disease and developing symptoms at some stage in later life. There is currently no cure, and individuals living with the disease are progressively unable to use their muscles until they become wheelchair bound and completely dependent on others. Research indicates that Anindilyakwa people have an aggressive 'Joseph' strain of MJD, which affects each generation at an earlier age (Martins et al. 2012). Recent figures provided by the MJD Foundation shows 25 confirmed cases of MJD within the Groote Archipelago in 2022 with a further 184 people at risk by virtue of having a parent or grandparent with the disease. Each of those at risk has a 25–50% chance of inheriting the defective gene depending on particular (and unpredictable) genetic pathways.

In their input to the ALC's Strategic Plan for Disability Care in 2012, the MJD Foundation (MJDF 2012) estimated that by 2032 between 50 to 100 people could be symptomatic with MJD within the Groote Archipelago (at the upper end this would amount to 7% of the population over 10 years of age, using the projections in Table 2.3). They also advised that each affected person would progress to being a wheelchair user and they would experience symptom onset at increasingly earlier ages, with many requiring high levels of support under the age of 50. It was realistic, therefore, to project an eventual 100 wheelchair users at some future point, most of them under 50 years of age (MJDF 2012). If such numbers were to eventuate over the next 10–15 years, then the census rates of disability shown above would clearly rise substantially.

However, it is statistically very difficult to project future cases of MJD. From Figure 6.16, what we can say is that the numbers at risk have increased since 2016 but have stabilised

and now stand at 184. These individuals have a 25–50% chance of becoming symptomatic and so, combined with 12 individuals who are currently symptomatic or who have tested positive – plus 18 others who have had symptoms reported and who are therefore being monitored, the prospect of there being 50–100 active cases into the medium-term still appears valid.

Figure 6.16 *Number of Anindilyakwa persons at risk of contracting MJD: Groote Archipelago, 2015–2022*
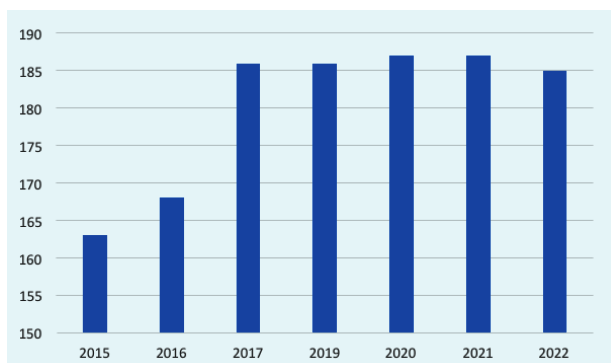
Source: MJD Foundation.

The progressive severity of MJD provides a basis for anticipating its likely emergence in the population. The most severe cases are, on the whole, those of longest-standing since initial onset, while those being monitored represent cases that may emerge. From Figure 6.17, we can see that the latter provide a substantial pool for the potential development of future cases. For now, the dominant condition for confirmed cases is severe, with around 7 cases per year. This is the same number for those with mild–moderate conditions, while those whose condition is incipient presents the largest group.

Figure 6.17 *MJD case numbers and severity: Groote Archipelago, 2008–2020*
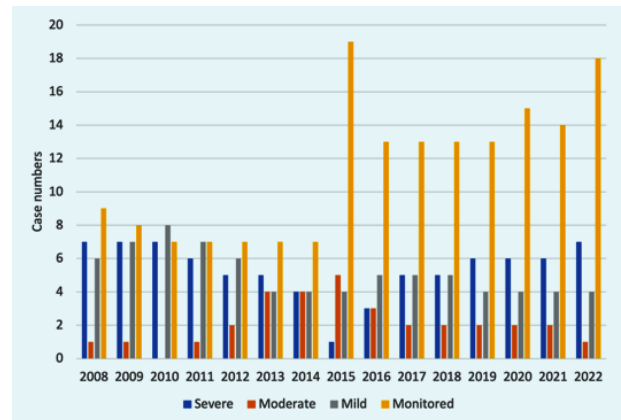
Source: MJD Foundation.

Aged and disability care

By definition, the census question on 'core activity need for assistance' suggests that others are implicated as well the disabled – by making time available to provide such assistance. Accordingly, the census also asks whether individuals spent time (over the previous two weeks) providing unpaid assistance to family members or others because of a disability, a long-term health condition, or problems related to old age. Unfortunately, no estimate of how much time spent in caring is acquired via this question, although the chronic nature of the health conditions referred to at least suggests that such care would be ongoing. Aside from the obvious needs of MJD sufferers, a good example may be drawn from the data on dialysis separations in Figure 6.3. As mentioned, these figures refer to episodes of care, not to individuals, but the number of persons involved in each episode is no doubt much greater than the patients themselves, as those in care require transport and family support during regular episodes of treatment. The census question on provision of care therefore provides a means of measuring potential health impacts on regional economic participation by identifying those in the population who may be time-restricted by

caring for family members and others. These are shown in Table 6.2.

As before, non-response rates can be high (as much as 26% in 2016) but the 2011 and 2021 levels were considerably lower allowing for reasonable estimates of final figures. These estimates are calculated by pro-rating non-responses. In 2011, almost one-quarter of the adult population aged 15+ (23%) was providing unpaid assistance to persons with a disability. This amounted to an estimated total of 252 individuals. By 2021, the proportion had increased slightly as had the estimated number of carers at 282. If we compare these figures to the numbers reporting a 'need for assistance' in 2021 in Table 6.2, we can see that this translates to an average of 5 persons available for every person requiring assistance, although this does not include any assistance provided to those with more moderate and mild activity limitations.

Table 6.2 *Census rates and estimated number of Indigenous persons providing unpaid assistance to a person with a disability: Groote Archipelago, 2011 and 2021*

	2011	2021
Census rate*	22.8	23.1
Estimated number of carers+	252	282

*Percent of 15+ excluding core activity need 'not stated'.

+'Not stated' distributed pro rata.

Estimates based on pro rata distribution of 'not stated' responses.

Source: ABS Census of Population and Housing 2006, 2011 and 2016.

The most direct measure of the impact of caring on workforce participation is provided by DSS records on clients in receipt of Carer Payments and Carer Allowance. These provide direct income support to people who are unable to engage in regular paid employment because they provide full-time daily care to someone with a severe disability or medical condition, or to someone who is 'frail aged',

or they provide a supplementary payment for carers who provide daily care at home for a person with a disability. In 2021, a total of 61 Indigenous adults in Groote Archipelago (5% of the adult population) received such payments (Table 3.8) which is considerably less than the estimate of 282 carers produced from census data (23% of the adult population). This suggests that those in receipt of DSS Carer payments and allowances are only a small sub-set of the total number of individuals engaged in providing care.

One clue is provided by data on the proportion of each age group involved in providing this care as shown in Figure 6.18. This reveals that for those people providing care, the highest proportions have been consistently drawn from the prime working-age groups aged 25–44 years, although there is some indication that the burden of care has shifted since 2011 more towards those in the younger working-age groups aged below 40 years. Ironically, this shift might itself be one consequence of higher labour force participation observed among those of older working-age, especially women, since most carers in the Groote Archipelago have been women (60% in 2011 and 58% in 2021).

Figure 6.18 *Age distribution of Indigenous adults providing unpaid assistance to a person with a disability: Groote Archipelago, 2011 and 2021*
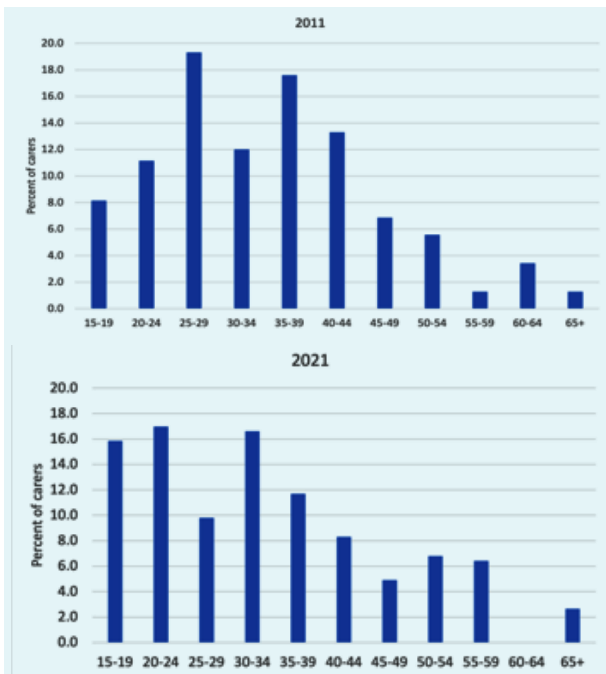
Source: ABS Census of Population and Housing.

One consequence of this age distribution is the potential impact on economic participation, especially for younger cohorts. Figure 6.19 examines the age distribution of carers as a proportion of each age group. What this shows is that the burden of caring has increased in younger age groups over the past 10 years, especially among those aged 15–24 with up to one-quarter now involved in providing care, whereas the burden of caring has reduced somewhat for those aged 25–54. What is intriguing to speculate is the extent to which these shifts might be associated with the age pattern of labour force participation shown in Figure 3.3.

Figure 6.19 *Percent of each age group providing unpaid assistance to a person with a disability: Groote Archipelago, 2011 and 2021*
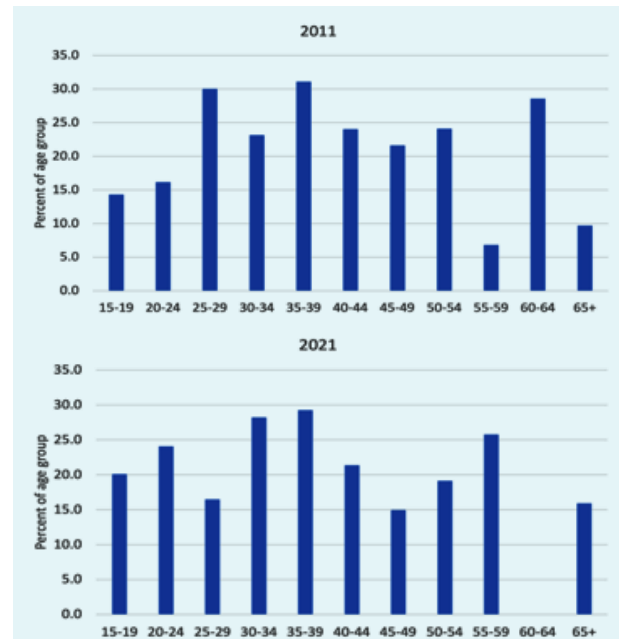
Source: ABS Census of Population and Housing.

Of course, one group that requires constant care are those suffering the effects of MJD. Current supports provided by the MJD Foundation include occupational therapy, physiotherapy, home exercise, social 'on country' outings, communication group sessions, the 'Kin Connects' program for those living off-island, and MJD House in Darwin which provides respite, specialist therapy and connection with other families.

According to MJDF, there are two main issues that continue to place pressure on the demand for high-level on-island care. The first is an understandable reluctance by MJD patients to leave both family and home, combined with poor local access to community services and residential care. This has meant that some people experience substandard care and die prematurely at home in preference to being sent away for proper care. The second stems from the onset of MJD itself. As the next generation of MJD patients will likely be much younger due to the nature of inter-generational disease mutation, many of them will not have

the same family structure available to provide them with care – as these are the very people who the current generation of sufferers rely on for their care (see Figure 6.14). As a result, there will be multiple generations requiring significant support at the same time, placing major stress on existing services. As we have seen in Tables 1.3 and 1.4, population growth in the years ahead is most likely to be concentrated in age groups with the highest prevalence of MJD and impacts on service needs are likely to increase accordingly.

To date, services to support an ageing population have focussed on the Flexible Aged Care facilities at Angurugu and Umbakumba operated by the East Arnhem Shire Council. In 2013, these catered for a total of 43 clients (MJDF 2013). At that time, the main service was located at the Angurugu site which operated a fully staffed 11-bed facility and personal care services 7 days a week (MJDF 2013: 51). By 2022, the number of clients was slightly higher at 54, which is very similar to the census-reported number of people with a 'core activity need for assistance' (Table 6.1). Of the current clients, one-third are aged 65 years and they account for almost half (46%) of the regional Indigenous population in that age bracket. The actual number of clients is likely to be slightly higher than 54 since this doesn't include the clients that Lagulalya Aboriginal Corporation might provide for (there were 9 in 2013). As many as three-quarters of current clients (74%) are chronic disease-related, while 20% experience physical ailment.

Figure 6.20 shows the number of clients currently accessing each of the main aged care and disability services provided. As in 2013 (MJDF 2013: 52–55), the most subscribed service is meals-on-wheels followed by community transport. The number of clients accessing laundry services has increased since 2013, but respite services remain daytime only, which invariably means half-day only. One area where resources have noticeably

diminished is in staff positions. Currently, EARC reports only 4 staff in each of Angurugu and Umbakumba, 5 of whom are Traditional Owners. This is substantially less than reported in the 2013 Disability Audit conducted by the MJD Foundation. Back then, MJD reported a total of 15 staff at Angurugu and 2 at Umbakumba (MJDF 2013: 61–3). In effect, there appears to be some divergence over time between increased numbers of clients and fewer staff resources to provide services. Also noted is the fact that, in 2013, there was a need for, and anticipation of, a 24/7 permanent residential and overnight respite capacity at Angurugu (MJDF 2013: 61), but this has clearly not eventuated. Quite what funding changes might have contributed to this dilemma is not known, but there has been considerable change in Aged and Disability Care funding models over the past decade away from block funding towards more fee-for-service arrangements that may have played some part. While examination of such issues is beyond the scope of the present exercise, this would now appear warranted given the inexorable shift toward an older population.

Figure 6.20 *Number of clients receiving Aged and Disability Care Services by service type: Groote Archipelago, 2022*
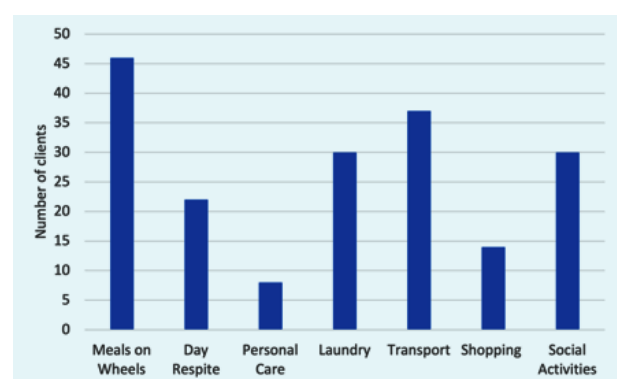
Source: East Arnhem Shire Council, Nhulunbuy.

Presently, aged and disability clients account for around 23% of the regional population aged over 50 years. Given that this population will likely increase from 232 at present, to 318 by 2036 (see Table 1.3 on population projections),

if the client/population ratio remains the same then we could be looking at a total of 74 aged and disability care clients in 15 years from now, all other things being equal. Clearly, pressure on existing services and demand for a wider range of services can only increase. This includes those services that are currently funded, as well as demands for an expansion of services to include 24-hour respite and/or permanent care. It also places added burden on informal family carers.

Key findings: LDMA Health

- Childhood mortality is a leading health indicator; however, there is some discrepancy between official data on registered childhood deaths and locally-registered childhood deaths. An immediate task for the Health LDMA should be to ground-truth official mortality data.

- The proportion of Indigenous liveborn infants with low birthweight has not effectively changed since 2001–2005, at between 19% to 23%.

- Overall, the rate of smoking among mothers declined from 71% in 2011–2015 to 59% in 2016–2020. This is still very high – in Australia as a whole, the rate is 9%.

- Hospitalisation rates are higher now than 20 years ago for all leading causes, except in the case of genitourinary diseases which includes renal failure.

- At the same time, rates of hospitalisation for endocrine and nutritional diseases have increased the most, and this includes the rate of hospitalisation for diabetes.

- Rates for external causes of hospitalisation are also notably higher. This includes transport accidents, assaults and intentional self-harm.

- Rates of hospitalisation for circulatory

and infectious diseases have steadily risen.

- Although the rate of hospitalisation for respiratory diseases fell during 2006–2010, it was much higher in the most recent period.

- In terms of specific causes of hospitalisation, chronic kidney disease and dialysis is the most prominent and the rate for females has risen markedly over the past 5-year period.

- Other notable increases in the rate of hospitalisation have occurred for external causes and alcohol-related diseases. The latter have been much higher over the decade 2011–2020 compared to 2001–2010 and male and female rates have been the same.

- Intentional self-harm hospitalisations have also been much higher over the past 10 years, with the rate for females double that for males.

- 15% of Indigenous residents of the Groote Archipelago self-reported having one or more chronic health conditions in 2021 with no difference between males and females.

- For males the most common reported conditions were heart disease followed by asthma, diabetes and mental health conditions.

- For females, heart disease and diabetes were most prevalent health conditions.

- Self-reported prevalence of chronic conditions is highly correlated with age. Barely 10% of those under age 34 reported a chronic condition, but by age 45–54 this increased to 40% and reached over 60% for those age 65+.

- In 2011, 72 persons (5% of the population) reported a severe disability. In 2021, this was lower at 56 persons (3.5% of the population).

- This reduction matches a decline in

Disability Support Pensions over the same period. However, the number of individuals on Disability Support Pensions (113) is much higher than the number with severe disability reported by the Census. This maybe because the census measure of disability is broader than that applied by the Department of Social Services

- Disability rates increase directly with age. However, rates have declined since 2011 in all age groups except 65+ where they have increased from 30% to 40%.

- In 2021, almost one-quarter of Indigenous adults provided unpaid assistance to a person with a disability. This is slightly higher than in 2011.

- Almost two-thirds of carers are aged between 25 and 44 years whereas this age group represents only one-third of the population.

- The number of clients currently accessing on-island Aged and Disability Care services is 54 (possibly 63). This is higher than the figure of 48 in 2013. This includes half of the population aged 65+.

- The most subscribed Aged and Disability Care service is meals-on-wheels, followed by community transport.

- Despite an increase in client numbers, the number of Aged and Disability Care workers had drastically reduced from 17 in 2013 to just 8 in 2022 (5 of whom are Traditional Owners).

- The 2013 disability audit by MJDF identified a need for an upgrade to a 24/7 permanent residential care and overnight respite facility at Angurugu. This has not eventuated.
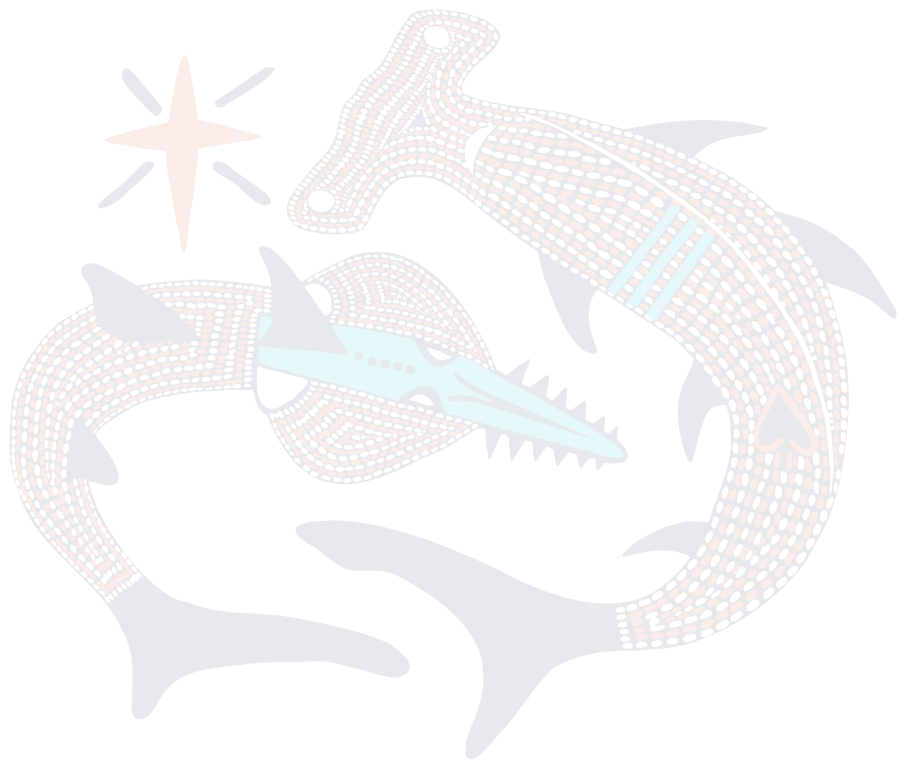
7. LDMA Law, Justice and Rehabilitation

On 19 June 2019, an implementation plan was agreed by the NTG and the ALC as Schedule 3.3 of the LDMA to give the Anindilyakwa people ownership over their justice system. Under this plan, the parties have agreed to the construction of a Cultural Rehabilitation Centre to provide an alternative to custody for young adult males. The facility will provide access to tailored rehabilitation services that target the risk factors that contribute to criminal behaviour. The parties also agreed to establish a Community Justice Group for the Archipelago to oversee the development and operations of the Cultural Rehabilitation Centre; to work with the NT Police Service to educate and positively engage members of the community in ways that aim to reduce the rate of offending in the Groote Archipelago; and to work to establish Community Courts. The background to this initiative is a long-standing cycle of high rates of offending in the Archipelago with associated high rates of arrest, sentencing and off-island incarceration involving significant proportions of the population, especially males (Biles 1983). Provisions agreed to under the LDMA are regarded as a key opportunity to begin to break this cycle.

Crime statistics in the NT are available from a variety of sources, reflecting different stages of the public's interaction with the criminal justice system. The initiating factor, of course, is contact with the police either by way of reporting an offence, or as individuals are apprehended by arrest, summons or court warrant. Such actions yield a range of data concerning the nature of offences and offenders, with separate reporting for juveniles (aged 10–17 years) and adults (18+). Individuals who are charged with an offence are further processed by the courts (a charge being an allegation laid by the police before the court or other prosecuting agency that a person has committed a criminal offence). Statistics

relating to the caseload and determinations of the Children's Court, Local Court and Supreme Court with respect to offenders from the Groote Archipelago have been provided by the NTG Department of Justice. As for those charged who are found guilty of an offence, sentencing data have also been provided along with data on custodial receptions (for youth, the latter are provided by the NTG Department of Families, Housing and Communities).

At the top level of interaction with the criminal justice system are those taken into custody or detention. Over the period 2017–2021, this amounted to an annual average of 8% of the Indigenous adult male population in the Groote Archipelago. However, lower-level interactions with the system via police and the courts are more prevalent and the effects are felt widely throughout families, households and communities. At the same time, the actual individuals involved represent a well-defined sub-set of the population as whole – they are predominantly male, of young working-age and they show signs of early engagement with police and the courts as youth.

Before proceeding with an analysis of recent trends in criminal justice outcomes it is worthwhile prefacing this analysis with brief mention of select findings and recommendations of the 2017 Australian Law Reform Commission's inquiry into the incarceration rate of Aboriginal and Torres Strait Islander peoples (ALRC 2017). An overarching point made by this inquiry is one that is often stated with regard to social determinants of incarceration that work against Indigenous people. These include many of the indicators of disadvantage outlined in preceding sections of this report. As for outcomes in the criminal justice system, the point is also made that Indigenous people continue to be heavily over-represented in the courts and prisons. Among the

recommendations tabled by the ALRC report is one calling for criminal justice targets. The data presented here for the Groote Archipelago provide a useful starting point for Anindilyakwa leaders and those involved in the Community Justice Group and Youth Strategy in thinking through suitable targets.

Offenders and the police

Contact between the police and offenders is recorded statistically as individuals are apprehended (either by arrest, summons or warrant) or are diverted (as juveniles) through the cautioning system and referred to a youth justice team. Criminal cases that arise out of such apprehensions are lodged in the Youth Court for juveniles and the Local Court or Supreme Court for adults, along with prosecution and charge details. Data on offences committed and unique individuals arrested are provided via the NT Police Force Real-time On-line Management Information System (PROMIS).

The number of offences committed by Indigenous residents of the Groote Archipelago between 2008 and 2021 is shown in Figure 7.1. The pattern is one of a sharp rise in offences commencing in 2010 and reaching peaks of 1,200 offences in 2012 and 2015, followed by an equally sharp decline – although not yet to the same lower levels experienced at the beginning of the period in 2008.

Figure 7.1 Number of offences committed by Indigenous residents of the Groote Archipelago, 2008−2021
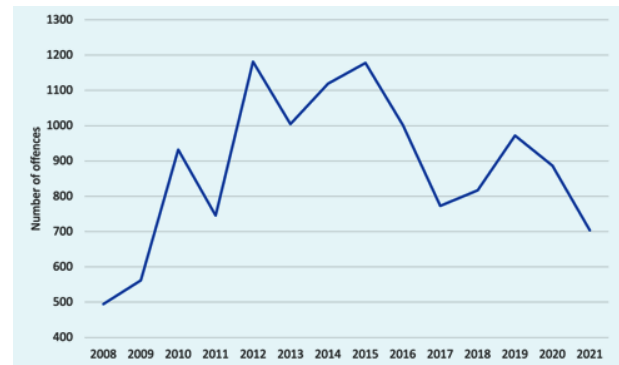
Source: NT Police Force.

One factor underlying this pattern is the degree to which individuals might commit several offences. As would be expected, the majority of Indigenous people in the Groote Archipelago aged 10 years and over are not offenders, although presently (in 2021) as many as 293 are, and this accounts for almost 22% of the population in that age bracket, a proportion that has been reasonably steady over recent years. However, what has influenced the number of offences committed in any given year is not so much a variation in this number of individual offenders, but rather a variation in the number of offences committed by each offender. Figure 7.2 shows the average number of offences committed by each offender between 2008 and 2021 and the pattern almost matches the one in Figure 7.1. In 2008, each offender committed an average of around 2.5 offences, between 2012 and 2017 this was approaching 4 offences per offender, and by 2021 this had fallen below the original rate of 2.5. It is worth speculating whether this recent substantial drop in the rate of offending bears any relationship to the creation of crime prevention groups within the community. In addition to community night patrols, these include the Peacemakers Group sponsored by ALC and GEMCO and the ALC's Security Spotters Program at Angurugu and Umbakumba. Another initiative in recent years has been

the posting of two officers from NT Families Youth Outreach and Re-engagement Team (YORET), while GEBIE GANG, which is part of the GEBIE CDP, and Bush Fit Mob supported by NT Families & Communities and the ALC, both operate a range of youth diversion and mentoring activities.

Figure 7.2 *Average number of offences committed by individual Indigenous offenders: Groote Archipelago, 2008–2021*
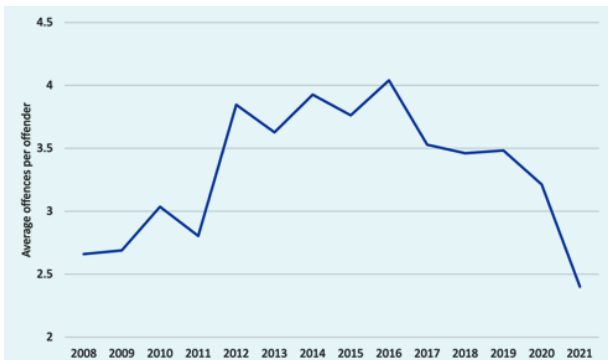
Source: NT Police Force.

The number of distinct individual offenders in the Groote Archipelago each year from 2008 to 2021 is shown in Figure 7.3. The annual total has risen from 186 in 2008 to 293 in 2021, but with some variation in between. This involved a substantial rise between 2008 and 2010, followed by relatively high numbers between 2010 and 2015, then a fall to 2017 and an increase again to the present (2021) level which is back again to the higher levels of recent years. Clearly, the majority of offenders have consistently been male, although the recent rise in overall numbers has been due mostly to a steady increase in female offenders.

Figure 7.3 *Distinct Indigenous offenders*: Groote Archipelago, 2008–2021*
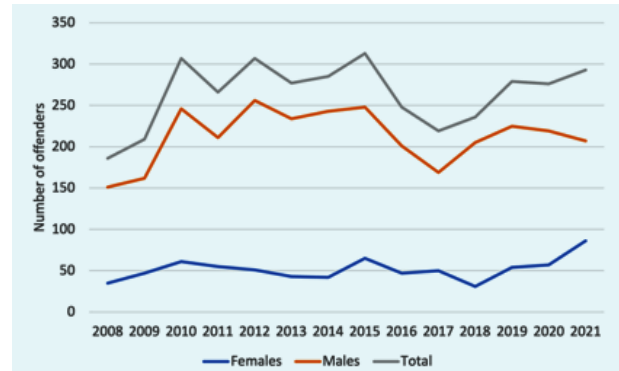
*Unique Indigenous individuals who committed one or more offences.

Source: NT Police Force.

Figure 7.4 disaggregates these male and female offenders according to three age groups: youth (10–17), young adult (18–29) and older adults (30+). If we examine each of these in turn, the number of male youth offenders was relatively low in 2008 and 2009 but rose steadily to reach 60 in 2013 and remained at around 50 per year until a recent decline to the original lower level in 2021. The number of young adult male offenders followed a similar trajectory reaching a peak of almost 120 in 2012 but falling back to the present level of around 80 per year after 2015. The number of older adult male offenders peaked earlier in 2010 and then experienced a steady decline to 2017. Since then, however, older males have offended in increasing numbers with the present level at over 100 per annum. While female offenders have shown less annual variation and have been far fewer in number, a similar recent rise among older adults is evident, as it is among young adult females. In contrast, female youth offenders have been relatively stable and rarely more than 10 per year.

Figure 7.4   *Distinct Indigenous male and female offenders* by age: Groote Archipelago, 2008–2021*
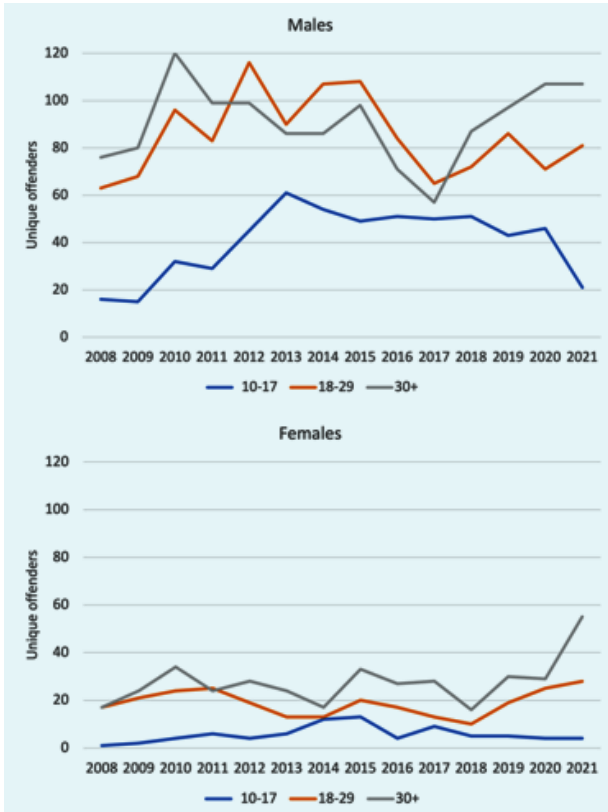
*Unique Indigenous individuals who committed one or more offences.

Source: NT Police Force.

Not all persons accused of committing an offence end up being arrested. Since 2008, only half of all Indigenous persons accused of committing an offence in the Groote Archipelago have been arrested. Figure 7.5 shows the total numbers of individuals who have been arrested each year disaggregated by males and females. Over the past 14 years there appears to have been an underlying level of around 80 arrests per year that was interrupted by a substantial rise over the period 2012–2017 when the annual number of arrests approached 160. This pattern was driven overwhelmingly by arrests of male offenders, since the number of females arrested has been consistently below 20 per year.

Figure 7.5   *Number of distinct Indigenous male and female offenders arrested: Groote Archipelago, 2008–2021*
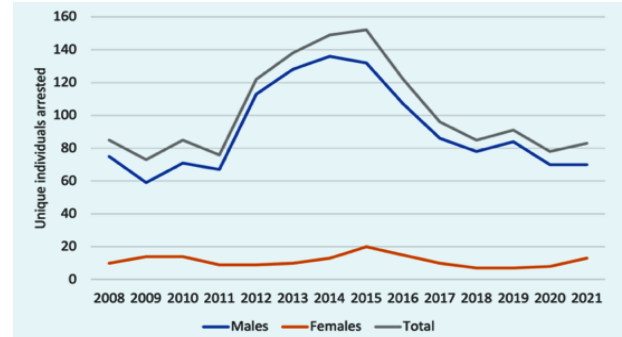
Source: NT Police Force.

As for the proportion of offenders arrested (Figure 7.6), this peaked for both males and females between 2013 and 2017 at 55% for male offenders and 30% for female offenders, but arrest rates were also relatively high at the beginning of the period in 2008 – and compared to that they are currently relatively low at 33% for males and 15% for females.

Figure 7.6   *Percent of distinct Indigenous male and female offenders arrested: Groote Archipelago, 2008–2021*
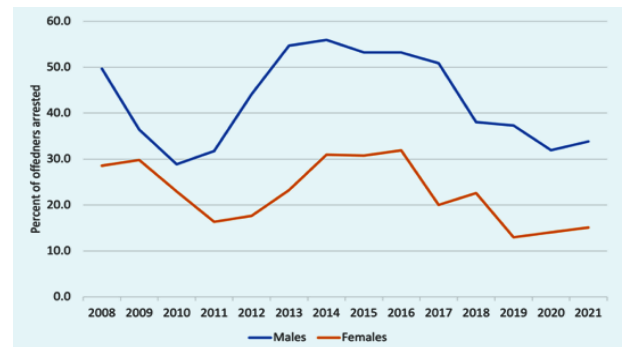
Source: NT Police Force

If we examine these arrests by age group (Figure 7.7), it is mostly young adult males who were responsible for the peak between 2012 and 2017, although there was a noticeable rise in youth arrests over the same period. Since 2016, however, numbers of males arrested at all ages have declined, especially among youth. Unlike males, females have shown little variation in the age distribution of arrests (Figure 7.7), although an almost total absence of youth arrest is notable.

Figure 7.7 *Distinct Indigenous male and female offenders arrested, by age: Groote Archipelago, 2008−2021*
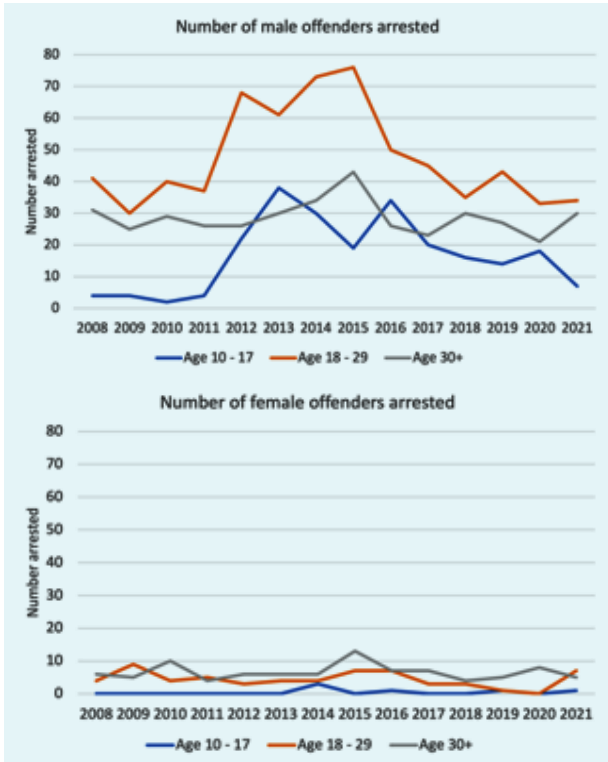
Source: NT Police Force.

Overall, as a proportion of the population aged 10 years and over, these arrest numbers represented just 6% in 2011, rising to 9% in 2016 and falling back to 6% in 2021. However, if we examine these rates by age and sex, we find quite different outcomes for particular sub-groups. Figure 7.8 shows the various combinations.

Arrest rates for both male and female offenders are highest among young adults aged 18−29, although male rates are by far the highest. Among young adult male offenders, arrest rates have ranged between 40% and 70%. Presently, it is at the lower end of the range at 42%. Male youth offenders have been arrested at slightly lower rates but the proportion has ranged widely from a low rate of just 10% in 2010, to a high of almost 70% in 2016. In 2021, 30% of youth offenders were arrested. In contrast, arrest rates among older male offenders have been steadier, at between 20%

and 40% each year. Arrest rates for female offenders have been substantially lower each year, generally between 20% and 40% at all ages, but with lower rates in the past two years.

Figure 7.8 *Proportion of Indigenous male and female offenders arrested by age: Groote Archipelago, 2008−2021*
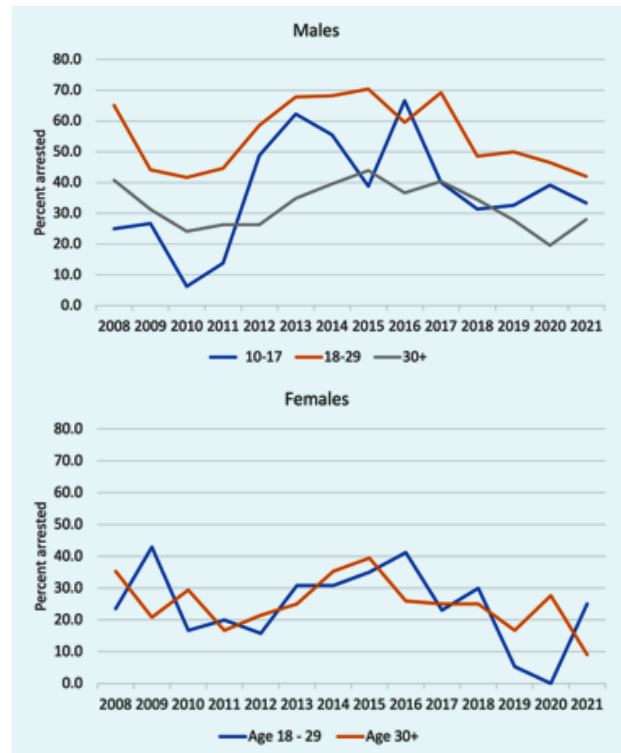
Source: NT Police Force.

As a proportion of total population within each age group, these arrests of offenders can be substantial. For example, in Figure 7.9, we can see that a fully one-quarter of males aged 18−29 years were arrested during 2016, with the level among youth not far behind. These levels have fallen since, but in 2021 it still remained the case that one-fifth of all young adult males were arrested. Arrest rates among females in each age group have been much lower, although highest among those aged 18−29 years.

Figure 7.9 *Distinct Indigenous male and female offenders arrest rates by age: Groote Archipelago, 2008–2021*
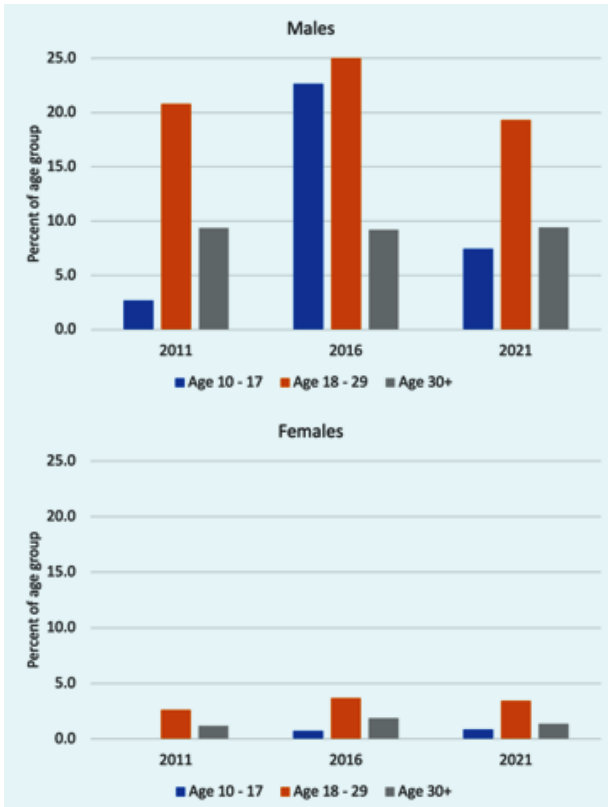
Source: NT Police Force.

Obviously, each individual arrested can become a repeat offender and arrested again. In effect, there are more arrests recorded than there are individual offenders. Figure 7.10 attempts to capture the extent of this recidivist behaviour among different age groups and it refers to males only given that these cover the majority of cases. It shows that recidivism, as defined by the average number of times an individual is arrested, has been highest among youth since 2010 and reached a peak in 2019, since which time it has fallen. Typically, between 2013 and 2019, local youth arrested were being re-arrested up to five times. The same level was reached by young adults in 2012, but since that time it has fallen to just over twice. The lowest rates of re-arrest have been among older males.

Figure 7.10 *Per capita repeat arrests among Indigenous males arrested by age: Groote Archipelago, 2008–2021*
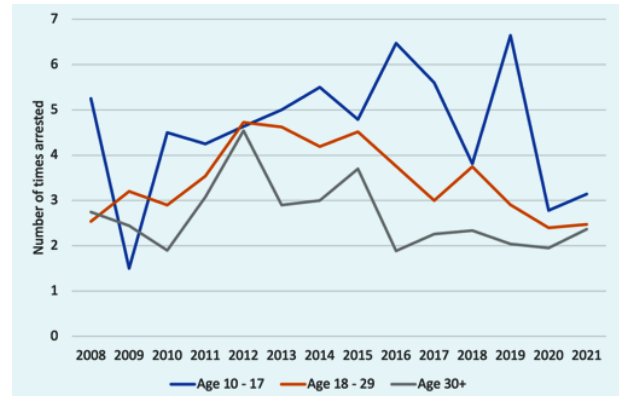
Source: NT Police Force.

Offence categories

The Australian and New Zealand Standard Offence Classification (ANZSOC) provides a uniform national statistical framework for classifying criminal behaviour in the production and analysis of crime and justice statistics (ABS 2011). In order to group ANZSOC offence divisions for analytical purposes, the NT Police management information system (PROMIS) has created a high-level offence classification of what it calls 'offence categories'. This compresses the 16 ANZSOC offence divisions into just four offence categories: Active Policing, Offences Against Property, Offences Against the Person, and Traffic Offences.

Active Policing

A number of criminal offences arise out of active police work that is initiated to deter crime, reduce disorder, reduce citizens' fear of crime, or remedy other specific concerns that might arise from time to time. These sorts of offences can be contrasted with reactive policing, or police work in which police officers are simply responding to citizens' calls for service. Out of a total of 12,330 offences committed by Indigenous people in the Groote Archipelago between 2008 and 2021, almost one-third of these (29%) were related to active policing. This converts to an average of 256 such offences per annum over that period,

although the distribution over time has been uneven, as shown in Figure 7.11. The peak period was between 2012 and 2015, since which time Active Policing offences have fallen and stabilised at a lower level although with signs of a gradual rise in recent years.

Figure 7.11 *Indigenous offences classified as Active Policing: Groote Archipelago, 2008–2021*
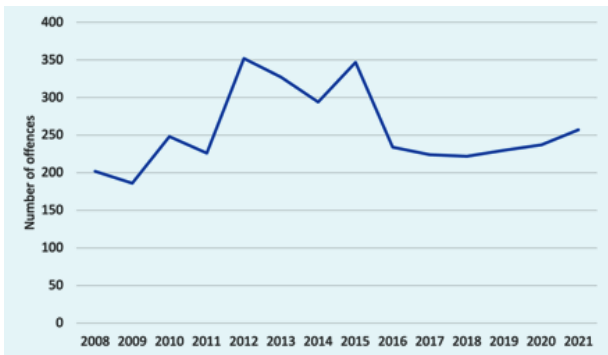
Source: NT Police Force.

Reasons for this recent rise are evident in Figure 7.12 which disaggregates these Active Policing offences into the main contributing offence divisions. Illicit drug offences were fairly stable at around 60 per year at the beginning of the period. They then fell to a low of around 20 per year between 2013 and 2017. Since then, however, they have risen substantially to reach 100 in 2021. Public order offences have also risen since 2018 having fallen steadily from a peak of 160 offences in 2013. By contrast, weapons offences and offences against justice procedures have both sustained a decline in numbers following earlier peaks.

Figure 7.12 *Trends in different types of Active Policing offences: Groote Archipelago, 2008–2021*
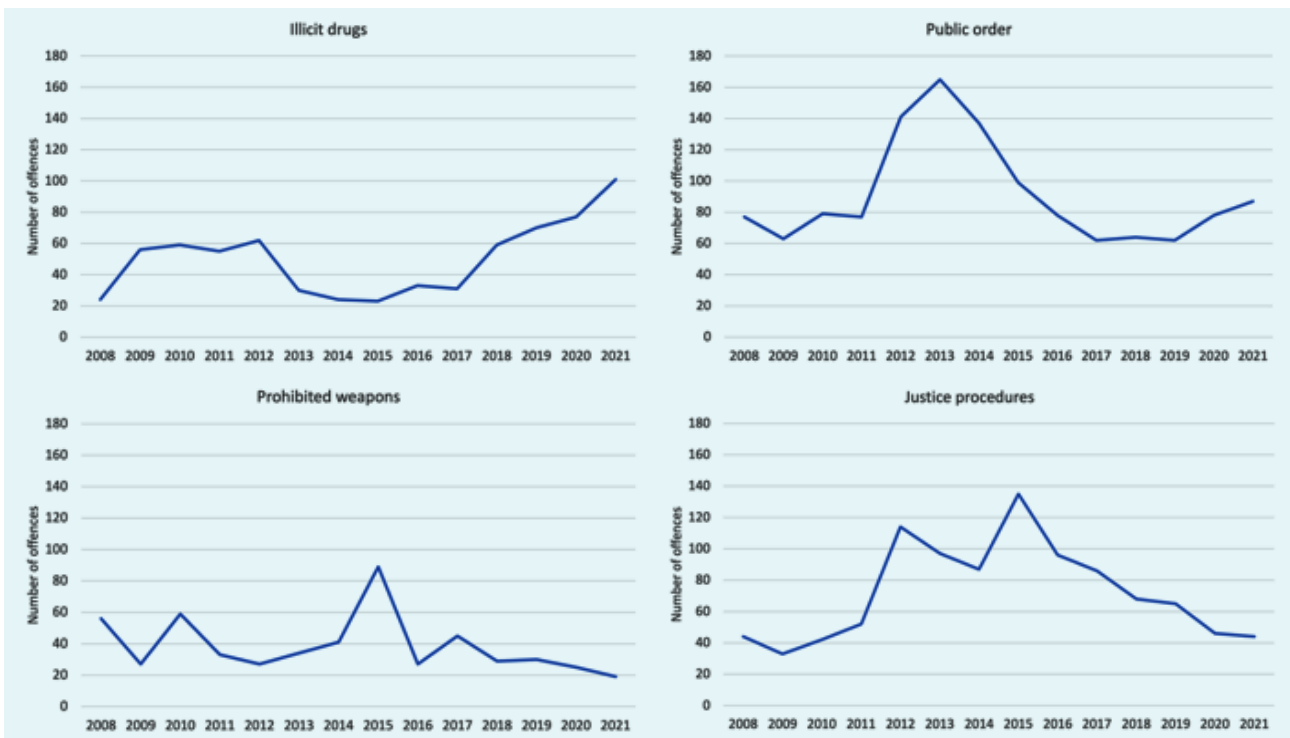
Source: NT Police Force.

Offences Against the Person

The number of Offences Against the Person has averaged almost 100 per year since 2008, though with considerable annual variation (Figure 7.13). From a relatively low point of just over 40 such offences in 2008, the number increased steadily to reach a high point of 140 in 2014 before falling back and then rising again to a peak of over 160 in 2017. Since then, numbers have generally fallen to the current level of around 80 per annum. Also shown in Figure 7.13 is the proportion of these offences that involved an assault, specifically acts against the person intended to cause injury. The vast majority of Offences Against the Person have involved such acts and while the trend in prevalence has been downward, acts to cause injury still predominate and involve around 80% of all such offences. The gradual reduction in the proportion over time has been due to slight increases in harassment offences and dangerous or negligent acts endangering persons.

Figure 7.13   *Acts intended to cause injury as a percent of Offences Against the Person: Groote Archipelago, 2011–2021*
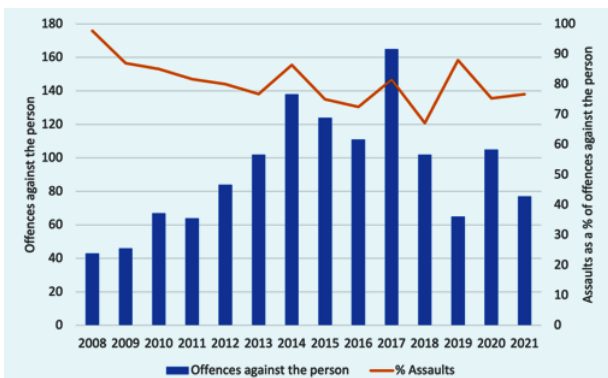
Source: NT Police Force.

One issue that had been an underlying cause of physical violence in the past in the Groote Archipelago is excessive alcohol consumption. Following the introduction of the community-developed Alcohol Management Plan in 2005 (GEBIAMS) there was an almost immediate reduction in the incidence of assaults on-island (Conigrave et al. 2007). From Figure 7.14 we can see that this impact has persisted through

to the present. Of the 90 or so acts intended to cause injury each year, relatively few have been alcohol-related – accounting for less than 10% of all such assaults, at least until 2017 since when the proportion has risen and varied between 10% and 20%.

Figure 7.14   *Proportion of acts intended to cause injury that were alcohol/non-alcohol related: Groote Archipelago, 2011–2021*
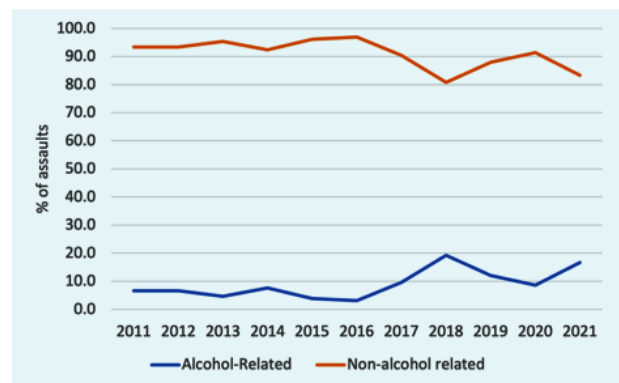
Source: NT Police Force.

It should be restated that these data refer to offences committed in the Groote Archipelago. According to the ALC Strategic Plan (ALC 2012: 85), alcohol consumption remains a substantial problem for Anindilyakwa people when off-island, and it was estimated in 2011 that there were between 100 and 150 individuals drinking in Darwin at any one time, with even higher numbers around royalty, rent and holiday times (Lee and Conigrave 2011). Obtaining police data on any offences that might be committed by people whilst in Darwin, especially those that might be alcohol-related, is compromised by the fact that offences recorded in PROMIS are entered according to the location of offences committed, not according to an offender's usual place of residence. Even where residence data are recorded this refers to last known address, which for many Anindilyakwa temporarily in Darwin is just as likely to be a Darwin address and therefore of limited use. However, from the data on alcohol-related hospitalisations shown in Figure 6.5, it is likely that the levels shown in Figure 7.14 may well be reversed for individuals apprehended in Darwin and elsewhere off-island.

Over the decade since 2011, more than three-quarters (78%) of all acts intended to cause injury were related to domestic violence. There appears to be an underlying level of between 50 and 70 such assaults per year, and while peaks occurred in 2014 and 2017, the present trend appears to be downwards (Figure 7.15).

Figure 7.15   *Domestic violence (DV) related assaults: Groote Archipelago, 2011–2021*
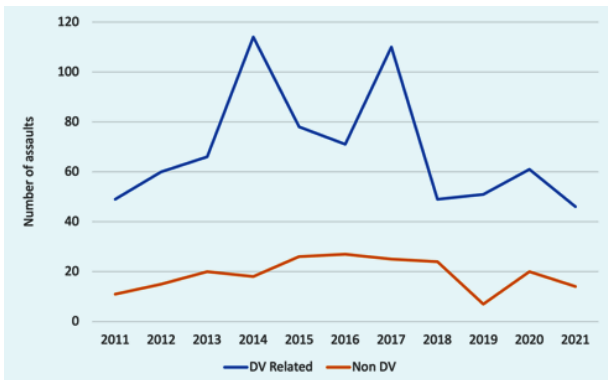
Source: NT Police Force.

Offences Against Property

The number of property-related offences committed each year in the Groote Archipelago has varied considerably between 2008 and 2021 (Figure 7.16). Between 2008 and 2011, property offences were relatively few, generally less than 100 per year. In 2012, the number tripled to 300 offences and then rose again to reach a peak of 450 in 2016. Since that time through to 2020, numbers fell back to around 300 per year, while 2021 has seen a return to the original low level of just below 100.

Figure 7.16   *Property related offences: Groote Archipelago, 2008–2021*
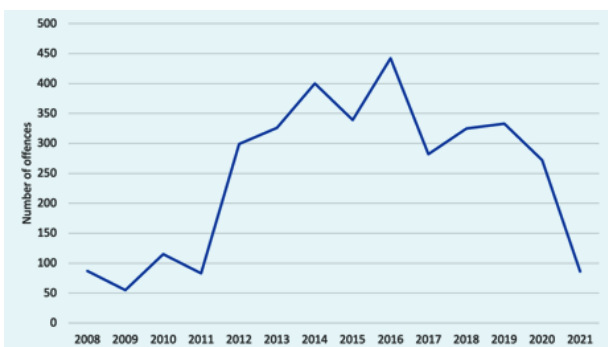
Source: NT Police Force.

All forms of property offence have contributed to this pattern of rise and fall with theft and related offences and property damage contributing the most over time (Figure 7.17). Offences related to unlawful entry/burglary and break and enter have been fewer in number but equally persistent over the period 2012–2020.

Figure 7.17   *Main types of property offence: Groote Archipelago, 2008–2021*
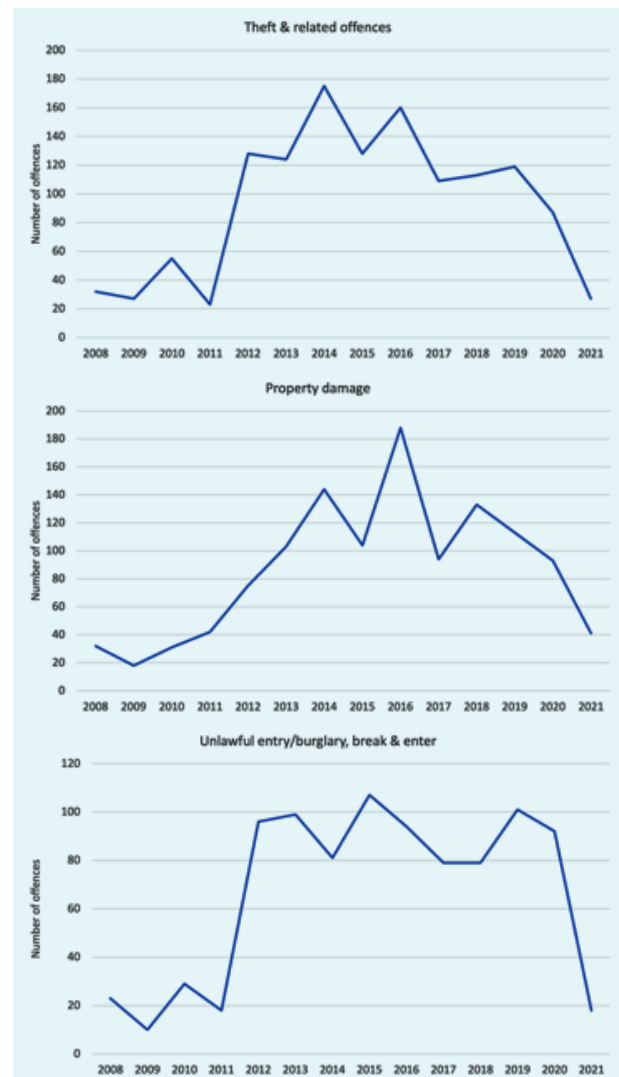
Source: NT Police Force.

Traffic Offences

Traffic Offences, including vehicle regulatory offences, accounted for almost one-third (29%) of all offences since 2008 (7.18). In turn, just over one-third of these (35%) were committed over the 3-year period between 2010 and 2012, alone. Since that peak period, numbers have generally been lower although subject to considerable annual variation. This no doubt reflects the nature of this category of offences which are largely to do with driving licence infringements, the registration and roadworthiness of vehicles, speeding, and driving under the influence of alcohol and/or drugs all of which are somewhat opportune from a policing perspective.

Figure 7.18   *Traffic and vehicle regulatory offences: Groote Archipelago, 2008–2021*
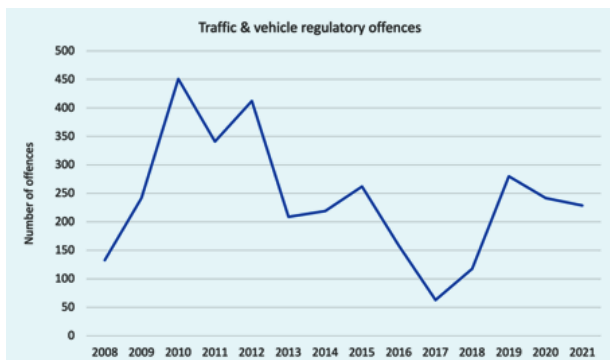
Source: NT Police Force.

Courts and sentencing

Between 2007 and 2021 a total of 4,317 cases were lodged in the NT court system in relation to Indigenous offenders from the Groote Archipelago. That converts to an average of 289 lodgements per year. Most of these cases were lodged in the Local Court, with far fewer in the Youth Court and almost none in the Supreme Court (Figure 7.19). Reflecting the variation in level of offending observed over the past 14 years, given the data on historic offending it is not surprising to see that court activity was greatest during the period 2012–2016. What is of interest is the much lower number of Local Court lodgements in the more

recent period since 2017 compared to 10 years previously. If anything, offending levels have been higher in the more recent period than 10 years previously but this does not seem to be reflected in Local Court appearances, although lodgements in the Youth Court are higher than 10 years previously.

Figure 7.19   *Highest court of principal offence* case lodgements against Indigenous defendants: Groote Archipelago, 2007–2021*
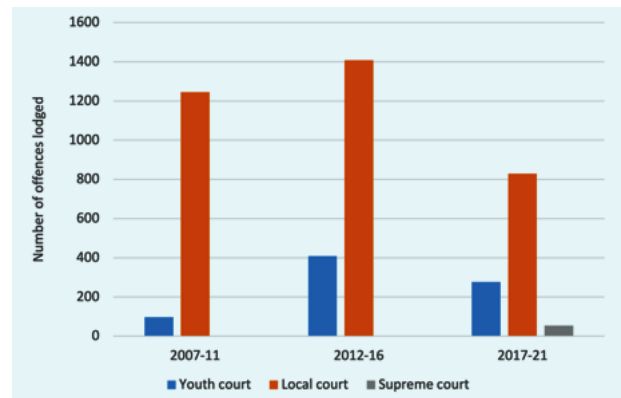
*Multiple offence charges can be lodged on in relation to a defendant; these data refer only to lodgements regarding the most serious (principal) offence.

Source: NTG Department of the Attorney-General.

Young offenders and the Youth Justice Court

The NT Youth Justice Court hears charges against young offenders – who are under 18 years old. Figure 7.20 shows the distribution of case lodgements by principal offence division for Indigenous youth from the Groote Archipelago between 2007 and 2021. In line with what was shown in Figure 7.4, lodgements for any offence in 2007–2011 were relatively few. Between 2012 and 2016, however, the number of cases lodged for unlawful entry with intent/burglary and break and enter swelled, as did those for traffic offences, followed by acts to cause injury and theft. These four types of offence have continued to dominate in Youth Court proceedings.

Figure 7.20 *Principal offence division* of case lodgements in the Youth Justice Court against Indigenous defendants: Groote Archipelago, 2007–2021*

*Multiple offences can be lodged in relation to a defendant; these data refer only to lodgements in the most serious (principal) offence division based on ANZSOC (ABS 2011).

Offence divisions: 1. Homicide and related offences; 2. Acts intended to cause injury; 3. Sexual assault and related offences; 4. Dangerous or negligent acts endangering persons; 5. Abduction, harassment and other offences against the person; 6. Robbery, extortion and related offences; 7. Unlawful entry with intent/burglary, break and enter; 8. Theft and related offences; 9. Fraud, deception and related offences; 10. Illicit drug offences; 11. Prohibited and regulated weapons and explosives offences; 12. Property damage and environmental pollution; 13. Public order offences; 14. Traffic and vehicle regulatory offences; 15. Offences against justice procedures, government security and government operations; 16. Miscellaneous offences.

Source: NTG Department of the Attorney-General.

In order to assess whether cases lodged in relation to Indigenous youth from the Groote Archipelago are different from those brought against Indigenous youth generally in the Northern Territory, Figure 7.21 compares the distribution of lodgements for these two groups according to offence division. While there is some difference, it is clear that youth in the Archipelago have been brought to court for consistently the same main reasons as youth elsewhere in the NT. However, there have been notable shifts over time in regard to the distribution of offences in the Groote Archipelago. For example, in the period 2007–2011, almost half of all court lodgements were due to robbery & extortion

and public order offences, whereas these have been subsequently negligible. Instead, local offenders have caught up with the pattern generally in the NT, with one-third of offences now related to unlawful entry and burglary. Also evident is a steady rise in the prevalence of lodgements due to weapons offences, which is less apparent elsewhere.

Figure 7.21 *Percentage distribution of principal offences* for cases lodged against Indigenous defendants in the Youth Justice Court: Groote Archipelago and Northern Territory, 2007–2021*

*Multiple offences can be lodged in relation to a defendant; these data refer only to lodgements in the most serious (principal) offence division based on ANZSOC (ABS 2011).

Note: 1. Homicide and related offences; 2. Acts intended to cause injury; 3. Sexual assault and related offences; 4. Dangerous or negligent acts endangering persons; 5. Abduction, harassment and other offences against the person; 6. Robbery, extortion and related offences; 7. Unlawful entry with intent/burglary, break and enter; 8. Theft and related offences; 9. Fraud, deception and related offences; 10. Illicit drug offences; 11. Prohibited and regulated weapons and explosives offences; 12. Property damage and environmental pollution; 13. Public order offences; 14. Traffic and vehicle regulatory offences; 15. Offences against justice procedures, government security and government operations; 16. Miscellaneous offences.

Source: NTG Department of the Attorney-General.

Adult offenders and the Local Court

Unlike juvenile offenders, whose misdemeanours are focused on theft and break and enter, adult offenders are more likely to be charged with acts to cause injury followed by offences against justice procedures, and traffic and vehicle regulations (Figure 7.22). In the period 2007–2011 public order offences stood out as dominating Local Court proceedings as did offences related to property damage. However, these almost disappeared in subsequent periods to be replaced by the offences mentioned above. Also noticeable is the steady number of illicit drug offences over the past 15 years.

Figure 7.22 *Principal offence division* of case lodgements in the Local Court for Indigenous adult defendants: Groote Archipelago, 2007–2021*
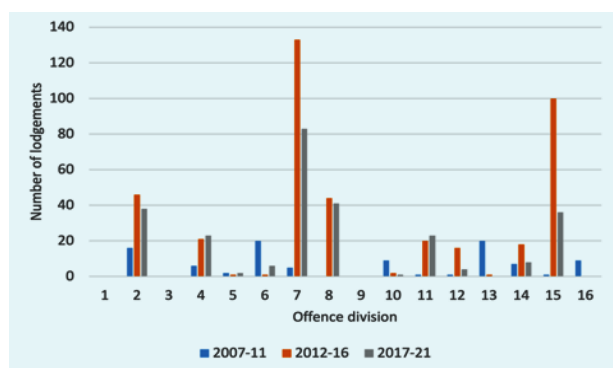

*Multiple offences can be lodged in relation to a defendant; these data refer only to lodgements regarding the most serious (principal) offence division based on ANZSOC (ABS 2011).
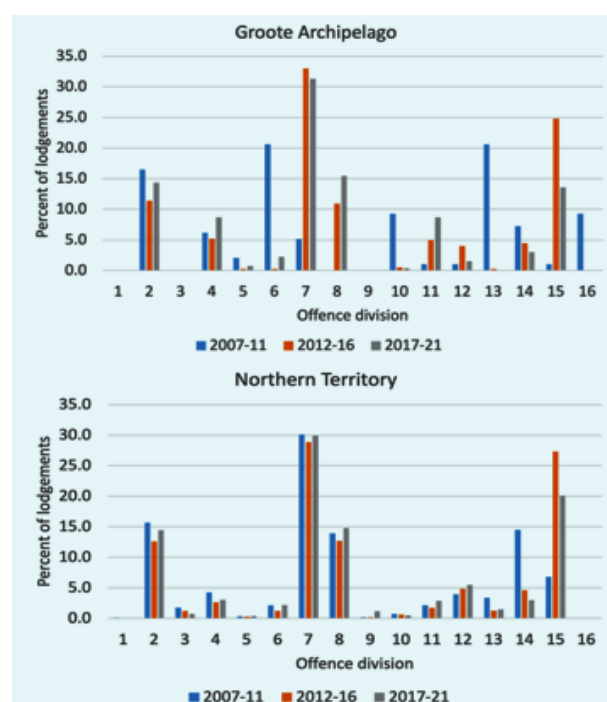
Offence divisions: 1. Homicide and related offences; 2. Acts intended to cause injury; 3. Sexual assault and related offences; 4. Dangerous or negligent acts endangering persons; 5. Abduction, harassment and other offences against the person; 6. Robbery, extortion and related offences; 7. Unlawful entry with intent/burglary, break and enter; 8. Theft and related offences; 9. Fraud, deception and related offences; 10. Illicit drug offences; 11. Prohibited and regulated weapons and explosives offences; 12. Property damage and environmental pollution; 13. Public order offences; 14. Traffic and vehicle regulatory offences; 15. Offences against justice procedures, government security and government operations; 16. Miscellaneous offences.

Source: NTG Department of the Attorney-General.

Broadly speaking, this distribution of offence types in the Groote Archipelago is similar to that experienced in the rest of the NT with acts intended to cause injury, traffic and vehicle regulatory offences, and offences against justice procedures commonly prevalent (Figure 7.23). However, underlying this general pattern, offences in the Groote region have typically been more widely spread across a range of categories including dangerous or negligent acts endangering persons, burglary and break and enter, weapons offences and illicit drug offences. The surge in public order offences during 2007–2011 presents another point of difference obviously reflecting highly local circumstances at that time.

Figure 7.23 *Percentage distribution of principal offences* for cases lodged against Indigenous adult defendants in the Local Court: Groote Archipelago and Northern Territory, 2007–2021*

*Multiple offences can be lodged on behalf of a defendant; these data refer only to lodgements in the most serious (principal) offence division based on ANZSOC(ABS 2011).
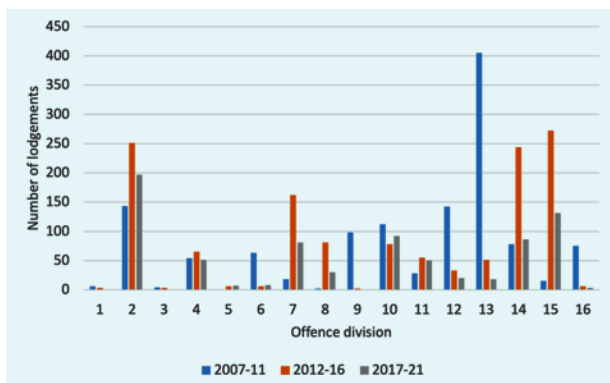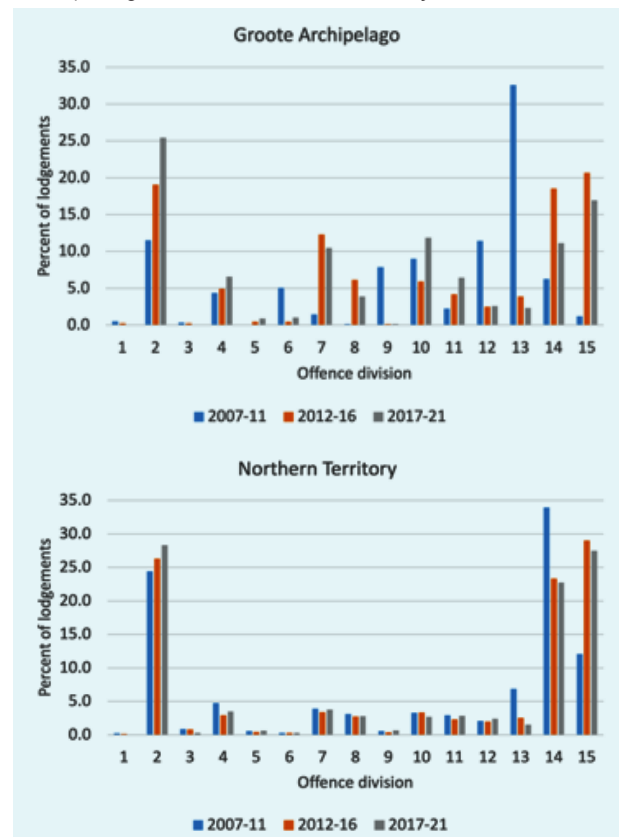
Note: 1. Homicide and related offences; 2. Acts intended to cause injury; 3. Sexual assault and related offences; 4. Dangerous or negligent acts endangering persons; 5. Abduction, harassment and other offences against the person; 6. Robbery, extortion and related offences; 7. Unlawful entry with intent/burglary, break and enter; 8. Theft and related offences; 9. Fraud, deception and related offences; 10. Illicit drug offences; 11. Prohibited and regulated weapons and explosives offences; 12. Property damage and environmental pollution; 13. Public order offences; 14. Traffic and vehicle regulatory offences; 15. Offences against justice procedures, government security and government operations; 16. Miscellaneous offences.

Source: NTG Department of the Attorney-General.

Sentencing

Figure 7.24 shows the number of court outcomes handed down by the Local Court and Supreme Court combined (only 2% from the Supreme Court) for Indigenous adult offenders charged with offences in the Groote Archipelago between 2007 and 2021. Aside from an obvious overall reduction in the number of court sentences (a total of 960 between 2007–2011, 950 between 2012–2016 and 599 between 2017–2021) the standout feature is a substantial reduction in the number of monetary penalties. Aside from this, sentences involving imprisonment, including partially-suspended sentences, have clearly increased over time alongside a reduction in fully-suspended imprisonment.

Altogether, a total of 684 sentences involving full or partial imprisonment have been handed down over the 15-year period. This converts to an average of 46 per annum, although this number would be higher in the more recent periods. In addition to this, a total of 257 fully-suspended sentences were also handed down. As noted, these have gradually reduced in number, but if we add to these the number of court orders involving alternatives to imprisonment along with community and other minor court orders, we find a total of 572 sentences that require some form of out-of-court supervision and conditions attached to release. This converts to an annual average

since 2007 of almost 40 conditional sentences.

Figure 7.24 *Court outcomes* for Indigenous adult offenders charged with offences committed in the Groote Archipelago, 2007–2021*
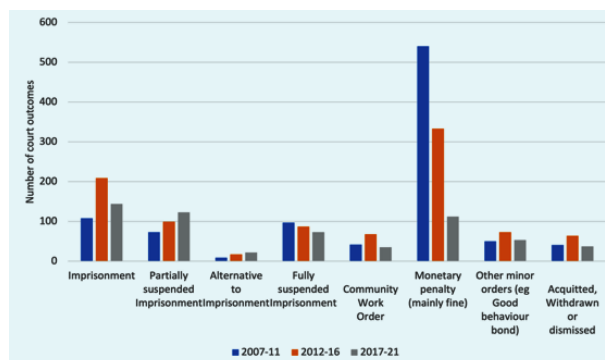
*Includes Local Court and Supreme Court.

Source: NTG Department of the Attorney-General and Justice.

If we focus on custodial sentences (Figure 7.25), data from NT Corrective Services regarding custodial receptions for individual males and females show that these have been dominated by male adults and that the number of individual males received into custody doubled between 2007–2011 and 2012–2016 from 100 to 200 (or from 20 to 40 per annum). The number of females in custody has risen as well, although from a much lower base.

Figure 7.25 *Number of individual Indigenous male and female adults with a usual address in the Groote Archipelago received into custody: 2007–2011, 2012–2016 and 2017–2021*
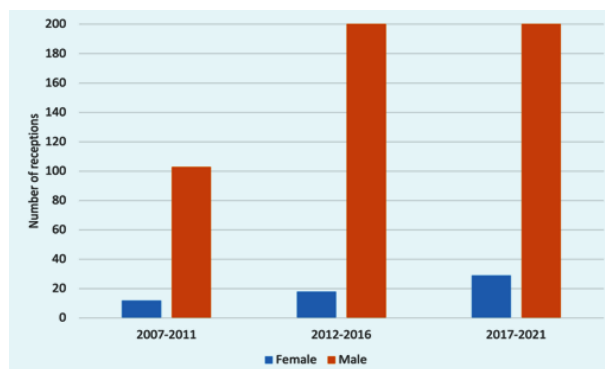
Source: NTG Department of the Attorney-General and Justice.

The absolute number of individuals incarcerated is one thing, more telling is the degree to which this occurs within the population – what proportion of people are involved? To examine this, we focus on the experience of adult males. The Anindilyakwa people have a long experience of incarceration and its prevalence in the population has historically been high, especially among young males (Ogilvie and Van Zyl 2001). From Figure 7.26, it is clear that this has remained the case. This shows the proportion of young adults (aged 18–29 years) and older adults (aged 30 years and above) who have been in custody at least once during each of the 5-year periods since 2007. Several features stand out.

First of all, young adults have consistently been more likely to be in custody at any given time than older adults, although by this very fact the experience of custody is highest among older adults. Second, after a substantial rise in the 2012–2016 period, when as much as 60% of young adults experienced at least one spell of custody, the proportion declined – although it is still accounts for almost half of young adults. Finally, and in contrast with young adults, the prevalence of custody among older adults has steadily risen and is now approaching a level similar to that of young adults at around 40% of the age group. Most likely, if more fine-grained age data were available, this proportion would be shown to be much higher amongst middle-aged rather than oldest-aged males.

Figure 7.26 *Indicative prevalence of custodial reception for Indigenous adult male defendants with a usual address in the Groote Archipelago: 2007–2011, 2012–2016 and 2017–2021*
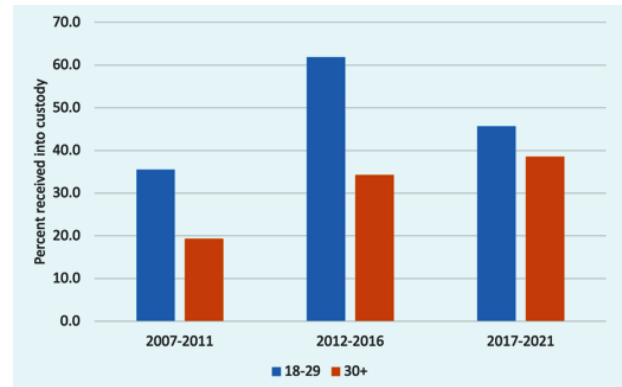
Source: NTG Department of the Attorney-General and Justice.

Community Correction Orders (CCOs) provide an alternative to custody, although they still involve a degree of sanction and requirements for compliance. In each of the three time periods since 2007, around half of young adult males have consistently been subject to a CCO compared to the equally consistent level of just over 20% for older males (Figure 7.27).

Figure 7.27 *Percent of Indigenous adult males, by age group commencing a Community Corrections Order in Groote Archipelago: 2007–2011, 2012–2016 and 2017–2021*
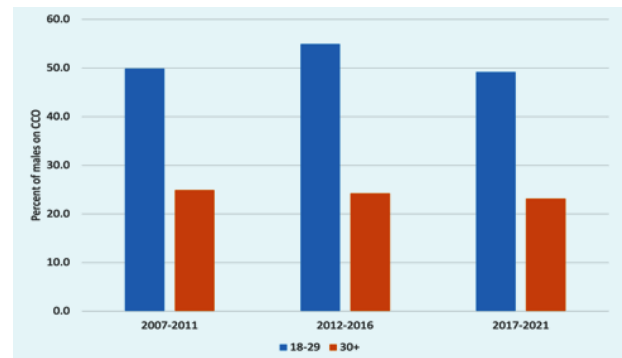
Source: NTG Department of the Attorney-General and Justice.

Sentencing according to offence type

Given the maxim that the punishment fit the crime, it is not surprising to find that the nature of sentences handed down tends to be related to the type of offence that defendants are charged with. In Figure 7.28 we examine the pattern of Local Court sentencing determined for Indigenous adult offenders according to the main offences committed in the Groote Archipelago over the past 15 years. The tendency has been for sentences to shift from those that are predominantly custodial, to those involving some form of Community Order, and those that are monetary in nature. While the content of Figure 7.28 has been ordered to show this progression, it should be noted that the vertical scale in each chart varies in order to accommodate the different number of sentences involved. Having said that, the purpose here is to compare the distribution of sentencing across charts.

If we start with 'Acts to cause injury', mostly common assault, we can see that the vast majority of sentences handed down involved full imprisonment or partially and fully suspended imprisonment. Very few such offences attracted a community or other court order. The same is evident for offences involving 'Unlawful entry/burglary/break and enter', although community work orders have been more prominent for these offences. When it comes to 'Weapons' and 'Illicit drug' offences, the distribution of sentences is more evenly distributed across the available range with more fully-suspended imprisonment combined with court orders and monetary penalties. 'Road traffic and vehicle' and 'Public order' offences, on the other hand, almost entirely attract a fine only.

Interestingly, somewhat between these two extremes of sentencing behaviour, sit 'Offences against judicial procedures', where imprisonment is as much to be expected as a fine. To explain this seemingly contradictory outcome, it should be noted that failure to pay a fine or to attend court when required to do so whilst on bail can lead to the issuance of an arrest warrant by the court. This, in of itself, can bring a further charge of an 'Offence against justice procedures' which, in turn, can lead to imprisonment. It is not clear from the available data to what extent this sequence of events occurs, but it does flag the possibility that the court system itself may suffer a degree of in-built recidivism.

Figure 7.28 *Sentences handed down for Indigenous adults from the Groote Archipelago by main offence types, 2007–2021*
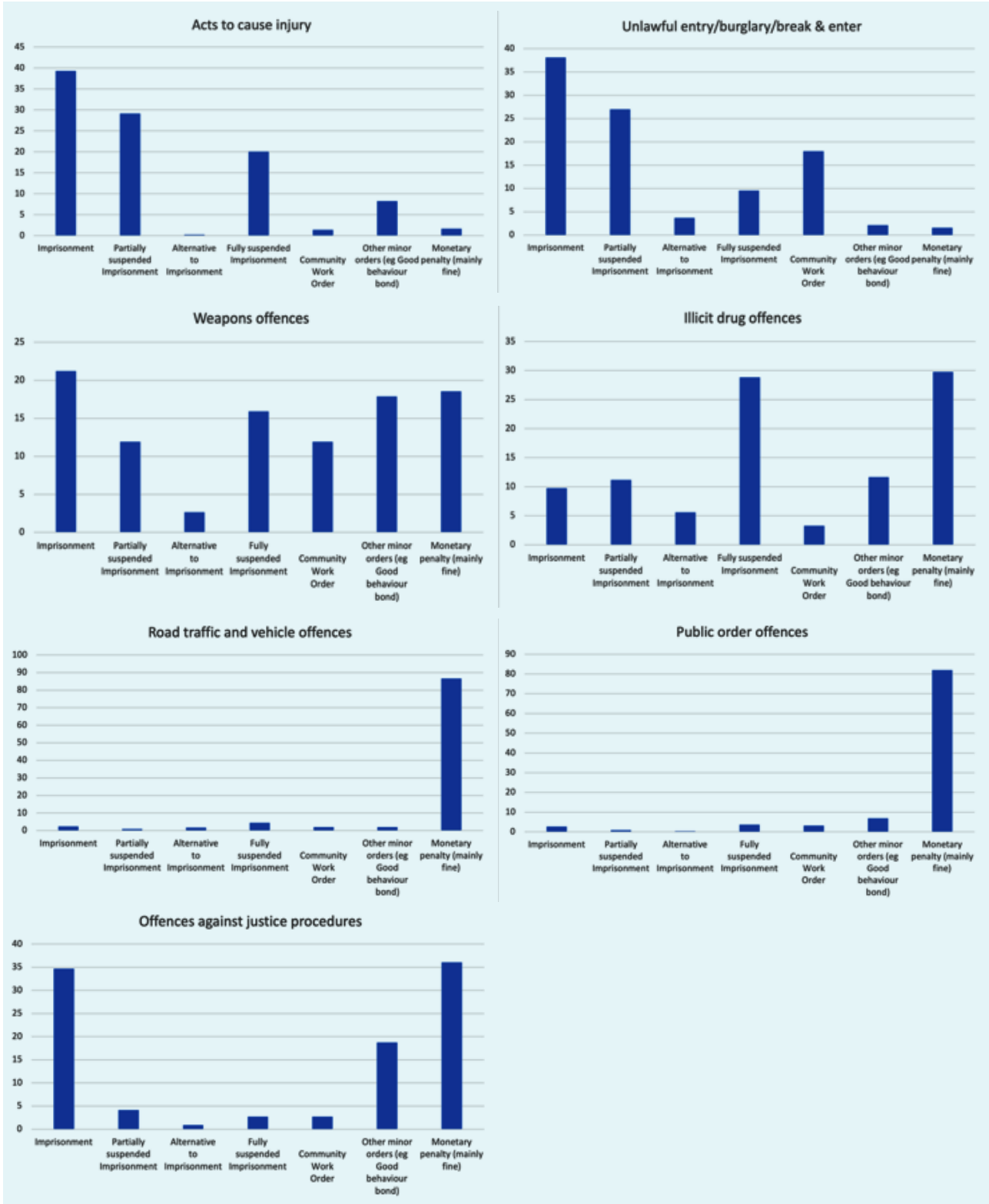
Source: NTG Department of the Attorney-General.

Youth diversion and detention

The Youth Justice system in the NT has three components: police, who are usually a young person's first point of contact with the system; youth courts where matters relating to charges are heard; and statutory juvenile justice agencies that are responsible for the supervision and case management of young people on a range of legal and administrative orders, as well as for the provision of a wide range of services intend to reduce and prevent crime (NTG 2011). Increasingly, efforts are being made at the first point of contact to refer youth offenders to an alternative process other than the justice system. Youth diversion operates under a restorative justice framework where young offenders are encouraged to accept responsibility for their behaviour, so that an acknowledgment of involvement is a requirement for eligibility.

On average since 2008 a total of 45 Indigenous youth have been apprehended each year by police for committing one or more criminal offences. The vast majority of these (87%) have been male. However, the number of individuals involved each year has varied considerably (Figure 7.29). Starting with a relatively low number in 2008, the level rose to a peak of just over 60 persons apprehended in 2013, it then plateaued at around 50 persons through to 2020. In the past year it has fallen to just 21 individuals with some speculation regarding the possible impact of COVID-19 restrictions.

Figure 7.29 *Individual Indigenous male and female youth offenders: Groote Archipelago, 2008–2021*
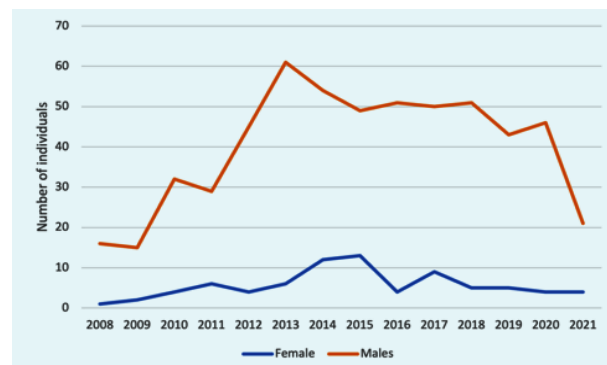
Source: NT Police Force.

Following apprehension, a number of possible outcomes face young people aged between 10 and 17 years old: they may be released without charge; referred to a youth diversion program; charged and then released on bail; or placed on remand awaiting a court appearance.

Between 2007 and 2011, a total of 97 lodgements were made to the Youth Court on behalf of Indigenous defendants for offences committed in the Groote Archipelago. This number rose to as many as 409 over the next 5-year period of 2012–2016, and then fell back again to 276 in the most recent period of 2017–2021, although these were lodged mostly in the years up to 2019.

As for outcomes from these court hearings, Figure 7.30 shows that during 2007–2011 very few imprisonment sentences were handed down. Most cases were either acquitted, withdrawn or dismissed, or minor court orders were given. Over the following five years, a substantial number of sentences were for imprisonment – as many as 34 sentences involving either full or partial imprisonment, but in recent years the number has fallen to 17. Substantial numbers of court orders for community work and more minor sanctions were also given during 2012–2016, and the level of these orders has continued though to a lesser extent. In the past few years, a large share of cases have been acquitted, withdrawn or dismissed.

Figure 7.30   *Youth Court outcomes for Indigenous defendants: Groote Archipelago, 2007–2021*
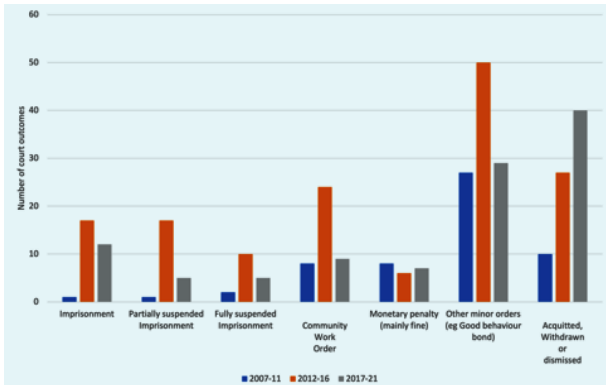
Source: NTG Department of the Attorney-General.

Of course, there is now a long (and mixed) history of attempts at youth diversion in the Northern Territory (NTG 2011). According to the *Youth Justice Act 2005* (NT), if a police officer believes on reasonable grounds that a youth has committed an offence, then instead of charging the person the officer must do one of the following as considered appropriate: issue a verbal warning, issue a written warning, convene a youth justice conference, or refer the individual to a diversion program. Exceptions occur if the alleged offence is a prescribed (serious) offence or the youth has some other history that makes diversion an unsuitable option (such as previous diversion or conviction). If, following assessment of eligibility for diversion, they do not meet the criteria as outlined in the *Youth Justice Act 2005* (NT) then they are 'denied' diversion and are subject to charge or summons.

Between 2013 and 2021 an annual average of 40 Indigenous youth from the Groote Archipelago were directed to a youth diversion program and the vast majority of these (90%) were male. If we use the 2016 population of 304 persons aged 10–17 as a mid-way reference point for this period, we can say that an estimated 13% of youth were directed at least once to such a program during this time. This proportion rises to 25% if we focus on males only. According to the ALRC (Australian

Government 2010), diversion avoids the stigma associated with prosecution and conviction, and it avoids exposing a first minor offender to the influences of serious or recidivist offenders. It also provides an opportunity to address the underlying causes of offending behaviour.

The annual distribution of decisions regarding diversion, according to the outcome, is shown in Figure 7.31 for distinct persons. Typically, in each year, an average of 35% of apprehended youth are denied diversion and charged instead. As for the remaining two-thirds, the most common outcome in almost all years has been referral to family conferencing. Written warnings have been more common since 2018, although they are the least likely outcome.

Figure 7.31   *Number of distinct Indigenous youth by Youth Diversion determination: Groote Archipelago, 2013–2021*
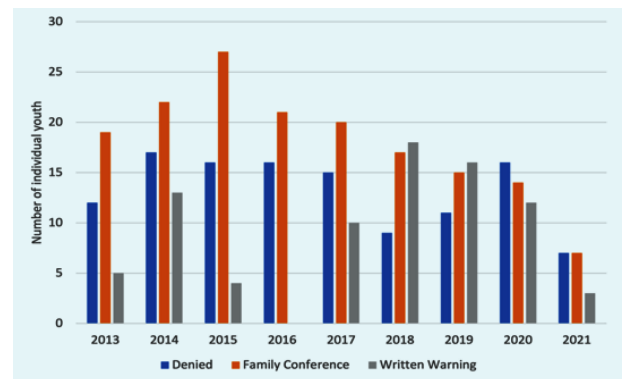
Note: 'Denied' refers to the assessment of the youth's eligibility for Diversion. If the youth does not meet the criteria as outlined in the Youth Justice Act 2005 (NT) then they are 'denied' Diversion and are subject to a charge or summons.

Source: NT Police Force.

In 2017, the NTG announced the introduction of a Youth Outreach and Re-engagement Service (YORET) to divert young people away from the criminal justice system. In the East Arnhem region, two YORET positions were created in Groote Eylandt and two in Nhulunbuy. These teams use the Integrated Offender Management System (IOMS) as a live document tracker for identifying current cases and clients. Unfortunately, there is no current

means within this system to collate historical information or reports, and this has made it difficult to provide specific caseload numbers. However, since 2018, the Groote Eylandt YORET has processed around 60 Statutory Clients and 50 voluntary clients. Caseload numbers have varied, but there have been times following court circuits in Groote Eylandt and Numbulwar, where this team has been managing up to 15 cases at one time. This is double the number of cases in Nhulunbuy and most of these have been highly complex.

Since early 2021, because of COVID-19 and suspension of the Bush Court Circuit, caseload numbers in the Archipelago have fallen but it is expected that these will increase again with the resumption of normal Court Circuit activity. Having said that, YORET advises that the sitting Judge for the Groote Eylandt Court considers the presence of permanent YORET workers based on Groote and their positive community engagement over the past two years, to have been instrumental in the current stability and reduction in youth offending in the Archipelago. Having said that, local police advise that illegal cannabis use amongst youth in the Archipelago is at the higher levels and goes largely undetected. If it were detected, then the rates and reporting of youth offending would increase significantly.

In 2021, Bush Fit Mob were provided with 3-year funding from the NTG and ALC to deliver the Community Youth Diversion Program across the Archipelago for young people aged 10–17 years. This program caters for young people either entering or involved with the youth justice system. Activities include community service – mostly picking up rubbish and gardening – as well as pathway opportunities into employment via training and work experience, and community engagement via on-country cultural activities. The aim is to reintegrate young people into training and work experience opportunities to steer them away from future offending and the formal youth justice system. In addition, the GEBIE CDP scheme runs a youth mentoring program (GEBIE Gang) focused on early intervention strategies to help young men and women to make positive life choices.

Since commencing, Bush Fit Mob have had 17 participants, mostly voluntary not statutory, and virtually all male. The primary program of Bush Fit Mob is a sport and recreational program offered to all youth across the Archipelago, whereas their 'Pathways' program is the Community Youth Diversion Program intervention component of the operation and is aimed at engaging at-risk and other youth into positive behaviours. Currently for Pathways, they operate t-shirt printing workshops, gym sessions and on-country excursions. They also facilitate youth engagement in stakeholder activities including with CDP, ALC Anthropology, Anindilyakwa Art, Umbakumba school, Radio Umbakumba, Learning on Country with camp support, and Bush Fit Mob Sport and Recreation. The program offering at any given time varies depending on availability of spaces, the needs of Youth Diversion clients (e.g., requirements for community service hours), as well as Bush Fit Mob staff availability and resources.

The multi-faceted nature of Bush Fit Mob produces three main activity types. First, there are Community Service activities. These typically include clean-up (beach, community, bush, highway), sorry business setup support, delivering sand to community homes, back-burning (supervised by Elder), cooking for others, car wash, fixing trailers for community members, shelving assembly support for shipping containers to use for equipment storage, and lawn-mowing/gardening. Second, there are Engagement activities. These have included attendance at Local Decision-Making meetings, BBQs, gym, sports, fishing, story-telling, spear-making, on-country visits, fire wood collection, traditional hunting, crabbing, weekly 'life choices' yarning circles, COVID-19

vaccine jabs, music, skateboarding workshop, gardening, and attending community events. Finally, there are the Pathway Hours. These involve nutrition/cooking, work paperwork setup (incl. drivers licence applications), bank account setup, workplace experience and assistance with gaining employment, turtle conservation experience, shipboard training, and driving lessons support. The establishment of these initiatives is of particular interest given the recent reduction in youth offending observed in Figures 7.4 and 7.7.

Further insight into this reduction is provided by a broadening of the youth age group to include all offenders aged between 8 and 17 years and a revision of the time-period from calendar year to financial year in order to capture the first half of 2022. On this basis, Figures 7.32 and 7.33 show the number of youth offences and youth offenders between 2018/2019 and 2021/2022 according to the two main categories of offences committed – offences against property and offences against the person. On both measures, and especially in regard to property offences, there has been a steady decline in recent years to the point where youth offending is now minimal. As with offenders generally in the Archipelago, the vast majority (88%) of these youth offenders have been male.

Figure 7.32   *Number of Offences against Property and Offences Against the Person committed by Indigenous youth*: Groote Archipelago, 2018/19–2021/22*
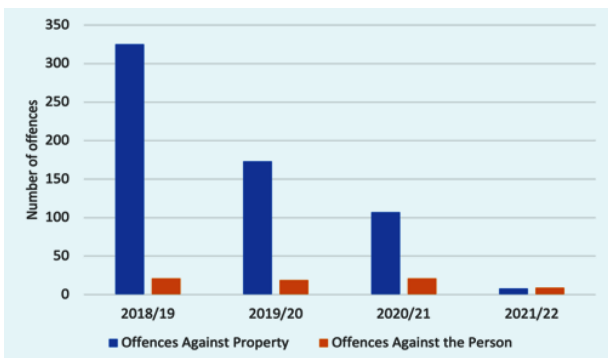
*Aged 8-17 years
Source: NT Police Force.

Figure 7.33   *Number of distinct youth* offenders of Offences against Property and Offences Against the Person: Groote Archipelago, 2018/19–2021/22*
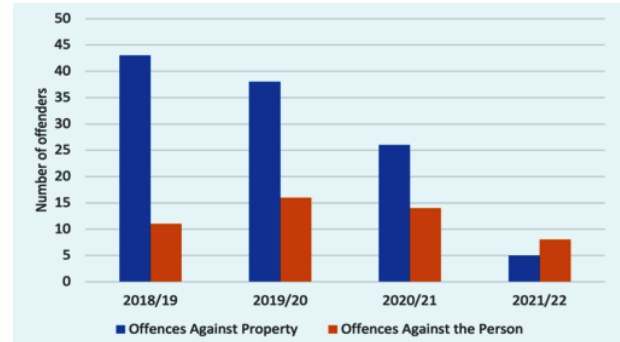
* Aged 8-17 years
Source: NT Police Force.

One consequence of this reduction in offending is a corresponding reduction in youth detention. Figure 7.34 shows the number of individual youth from the Groote Archipelago aged 10–17 years who were admitted into a detention centre at least once during each financial year between 2012/13 and 2021/22. These data require careful interpretation since the same individuals can appear in each year, nonetheless they do reveal a real reduction in the level of youth detention between the first part of the decade from 2012/13 to 2015/16 when an average of 10 individuals per year were placed in detention, and the more recent period since 2018/19 where numbers have fallen to virtually zero.

Figure 7.34   *Number of distinct Indigenous youth admitted into detention: Groote Archipelago, 2012/13–2021/22*
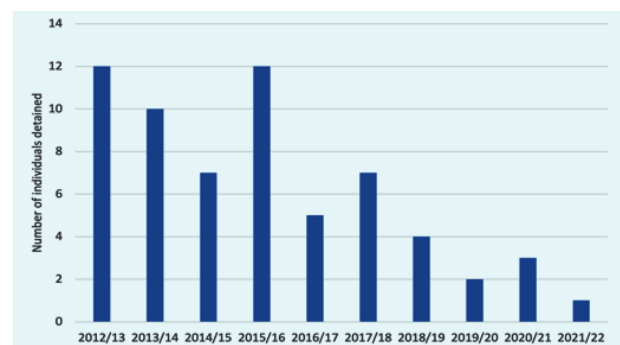
Source: Territory Housing, Families and Communities.

Key findings: LDMA Law, Justice and Rehabilitation

- The annual number of offences committed by Indigenous residents of the Groote Archipelago increased substantially from 500 to 1,200 between 2008 and 2015, and then fell just as sharply to 700 by 2021.

- These offences between 2008–2015 were committed by 200–300 individuals, mostly repeat offenders. The rate of repeat offending was highest between 2012 and 2016 at around 4 offences per offender per annum. It is now down to 2.5 offences per offender per annum.

- The majority of offenders over the past decade have consistently been male (annual average of 80%).

- The number of youth offenders (aged 10–17) was relatively low (less than 20 per year) in 2008–2009. It rose to an average of 50 per year between 2013 and 2020. In 2021, it fell back to the much lower level at 20 for that year.

- In recent years since 2018, the number of youth offenders aged 8–17 years has declined substantially to a very low level along with the number of offences committed by youth.

- As a consequence, the level of youth detention has fallen substantially to almost zero.

- The number of young adult offenders (aged 18–29) has fluctuated between 60 and 120 per year since 2008. The number of older adult offenders (>30 years) has been roughly the same but has trended upwards since 2018 and now stands at 107.

- Between 2008 and 2021, between 30% and 55% of male offenders have been arrested each year. The equivalent range for female offenders has been 15% to 30%.

- Arrest rates for both male and female offenders are highest among young adults aged 18–29 years. Arrest rates among young adult male offenders have ranged each year between 40% and 70%. In 2021, 42% were arrested.

- Male youth offenders have been arrested at slightly lower rates than for young adult male offenders, but the proportion has ranged from a low rate of just 10% in 2010 to a high of almost 70% in 2016. In 2021, 30% of youth offenders were arrested.

- As a proportion of the population, arrests of offenders can be substantial. For example, one-quarter of all males aged 18–29 years were arrested in 2016, with the level among youth not far behind. These levels have fallen, but it remains the case that one-fifth of all young adult males were arrested in 2021.

- Repeat arrests are more common among youth offenders than older offenders. In effect, recidivist behaviour appears to recede with age.

- Almost one-third of offences committed in the Groote Archipelago between 2008 and 2021 were related to the Active Policing category in relation to illicit drugs, public order, possession of prohibited weapons and contravention of justice orders.

- Offences against the person have been prominent in the overall profile of crime in the Archipelago, averaging almost 100 per year since 2008. Most of these offences (between 70% and 98%) have involved assault. While this proportion has declined, 'acts to cause injury' still account for 80% of offences against the person.

- Despite introduction of the alcohol management system in 2005, alcohol-related 'acts to cause injury' still occurred in the Archipelago and accounted for 20% of all such offences in 2021, having been less than 10% each year between 2011 and 2016.

- Over the decade since 2011, more than three-quarters (78%) of all 'acts intended to cause injury' were related to domestic violence. There appears to be an underlying level of 50–70 such assaults each year. The current trend appears to be downward.

- Between 2008 and 2011, offences against property were relatively few (50–100 per year). They rose substantially to between 300–450 per year between 2012 and 2019. They have since fallen to 86 in 2021. The main types of property offence have been theft and property damage.

- Traffic offences, including vehicle regulatory offences, accounted for almost one-third (29%) of all offences since 2008. One-third of these occurred over the period 2010–2012, with 350–450 such offences each year. Since then, the number has declined and now stands at 229.

- Not all offenders are charged and proceed to court. Between 2007 and 2021 a total of 4,317 cases were lodged in the NT court system in relation to Indigenous offenders from the Groote Archipelago (an average of 289 lodgements per year).

- Court activity was greatest during the period 2012–2016.

- The most persistently common offences over the past 15 years heard in the Youth Court were for acts intended to cause injury, unlawful entry with intent/burglary/break and enter, and offences against justice procedures.

- This was the same list in the Local Court (for adults) in addition to illicit drug offences and traffic and vehicle regulatory offences.

- A total of 684 sentences involving full or partial imprisonment have been handed down by the Local Court since 2007 (an average of 46 per year). There has been an increase in sentences for partially suspended imprisonment.

- Apart from these, by far the most common sentence has been a monetary fine, although the number has fallen considerably from a total of 540 between 2007 and 2011, to just 112 since 2017.

- Young adults (aged 18–29) have consistently been more likely to experience custody than older adults. Between 2012 and 2016 as much as 60% of young male adults experienced at least one spell in custody. This proportion has declined but it still remains at around 50%.

- In contrast with young adults, custody rates among older adults have steadily risen and are now approaching that of young adults at close to 40%.

- Not surprisingly, the nature of sentences handed down is related to the severity of offence committed. As this decreases, the tendency is for court decisions to move from custodial sentencing, to community orders, then to monetary fines.

- There is one exception to this rule – sentencing for offences against judicial procedures where imprisonment is as much to be expected as a fine.

- During 2007–2011, almost no sentences for imprisonment were handed down by the Youth Court. The number increased between 2012–2016 to around 10 per year. Over the past 5-year period it has been around 4 per year.

- Most youth sentencing involves community work or other court orders while a growing number of Youth Court cases have been acquitted, withdrawn or dismissed.

- Between 2013 and 2021 an annual average of 40 Indigenous youth (90% male) from the Groote Archipelago were directed to a youth diversion program. This translates to an estimated 13% of the youth population being directed to such a program over this period. This rises to 25% if we focus solely on male youth.

- Since 2013, of those youth considered by police for diversion, one-quarter (26%) have been denied diversion and charged instead. Around half (45%) have been recommended for family conferencing and another one-quarter have received a written warning. In 2021, all of the numbers for diversion were low, in line with a notable reduction in youth apprehensions.
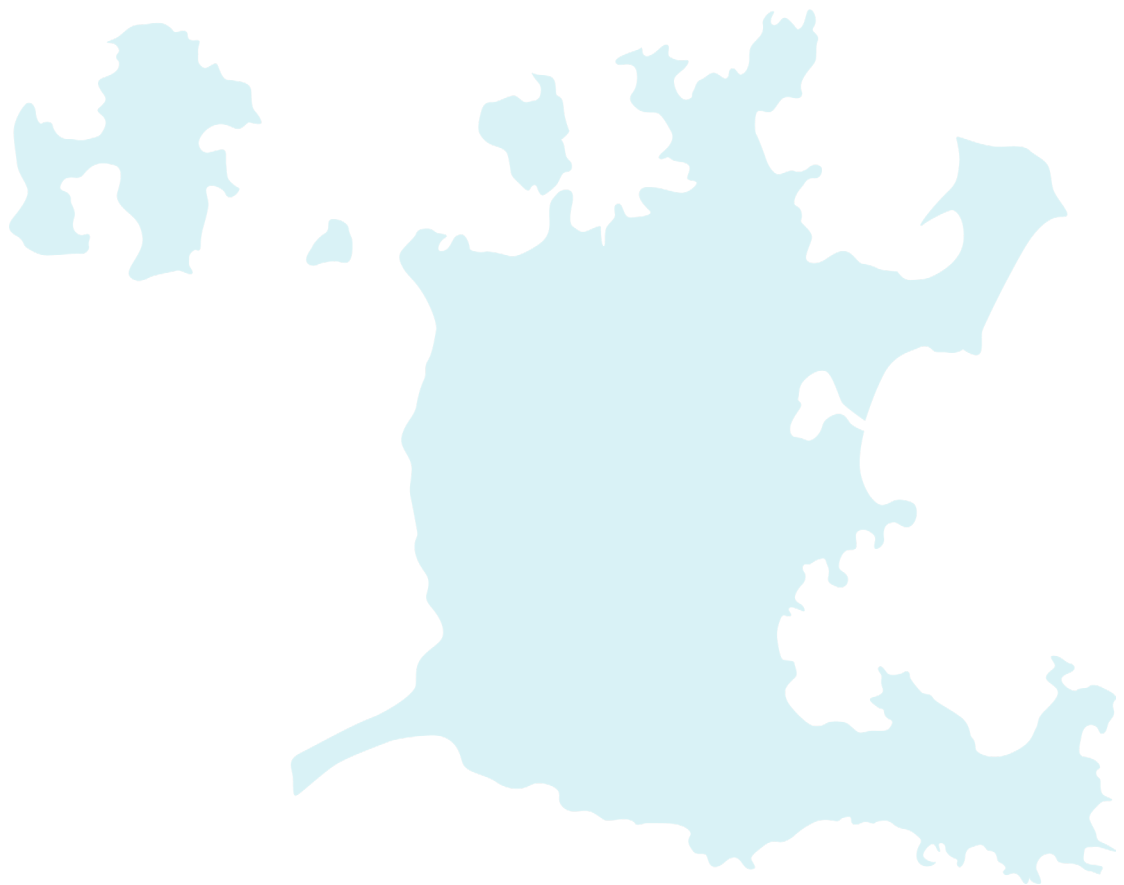
8. Data Governance and the Anindilyakwa Data Unit

The agreement for research services between the ALC and the ANU included a commitment to provide technical and practical advice on the establishment of an Anindilyakwa Data Unit within the ALC structure. In time, this entity would build and manage a database of the Archipelago population. It would develop an on-going capacity to retrieve, store, administer and utilise administrative data from government and internal sources as well as community survey data for reporting to the ALC Board to support community planning and evidence-based decision making. To this end, the FNP team included personnel from the Australian Data Archive at the ANU who worked closely with ALC-nominated staff to develop a prototype data unit for the purposes of managing the data flow associated with the present community profile.

In line with the ethos of the LDMA, the ALC's purpose here goes beyond the merely practical issues of data handling and use. It represents a formal declaration of Anindilyakwa data sovereignty with the mechanics of data governance providing the means to this. As noted by way of background to this profile, the task of implementing Indigenous data sovereignty currently exercises the minds of governments around Australia, but case study examples of this are rare. As far as can be ascertained, the ALC's experience of establishing a binding agreement on local decision-making, of securing commitments on the sharing of government-held data to support this, of negotiating formal processes to access such data, and of constructing internal capacity to receive, manage and utilise data, represents a rare case study example of comprehensive Indigenous data governance in practice. To that extent, the findings from this process have national significance.

Indigenous Data Governance in practice

To plan for, and support, the implementation of different components of the LDMA related to education, housing, health, economic development and law, justice and rehabilitation, the ALC recognised from the outset that much of the data required for evidence-based decision-making was held, not by themselves, but by disparate agencies of the NTG (especially), as well as by Australian Government and Local Government agencies. To complete a comprehensive profile of community needs it also became apparent that essential data were also held by other parties such as private sector interests and non-government organisations (NGOs), including on-island Aboriginal corporations. The first realisation, then, was that each of these would need to be identified, and then approached, in order to negotiate data access on a customised basis. By working through these initial tasks, several generic lessons were learnt.

1. Many of the existing systems for the sharing of administrative data, whether they be held by government agencies or other entities, are poorly equipped to meet the demands of ALC for Indigenous Data Governance and group rights to data. Reflecting on this, we note the ALRC's 2008 discussion of the extension of privacy laws beyond the individual (Commonwealth of Australia 2008: 338–51) and their observation that protections for group rights do exist in international law citing UNDRIP as its example. Significantly, though, it added the caveat that Australia (in 2008), was not a signatory to the declaration and so the implications of UNDRIP for data sharing in Australia were left unexplored.

While exploration of these implications has now begun (Kukutai and Taylor 2016; Commonwealth of Australia 2022), and while data sharing forms part of the architecture of the new national agreement for Closing the Gap, the practical steps towards enabling such group rights remain largely undeveloped.

2. Not all datasets refer to the same population with the main disconnect being between those defined as usually resident, those using services on-island, and those with a last-known address in the Archipelago. As already mentioned, there are no data that refer to culturally-defined groups.

3. The small (statistical) size of the population can result in substantial rounding of output numbers with limits on disaggregation by age, sex, population characteristics and location.

4. A large component of the data required for community/regional profiling is held by State/Territory agencies and not the Commonwealth. Much data is also held 'in-house' (e.g., by the ALC, NGOs and Aboriginal Corporations). While the present exercise has identified and obtained a good deal of these data, an audit is required to identify the full scope of what data might be available and what processes are in place to access them.

5. The ability to produce time series data varies substantially between agencies.

6. Each agency has its own custodial rules and procedures for receiving and processing data requests and these can be time-consuming to navigate. Many of these were not fit for the purpose of streamlined data sharing with an Indigenous data custodian.

7. Some Commonwealth agencies charge a fee for their data, a principle that the ALC has resisted as a principle of data sovereignty.

8. There can be reluctance on the part of some entities to share data, and persistence and cajoling are often required to secure this. This raises questions around the meaning and proper locus of custodianship for Indigenous data in the context of Indigenous Data Sovereignty.

9. Requests for data have time and resource implications for those holding data and this can present constraints on access. To be fair, data gathered as a by-product of specific administrative processes are not always held in a format that is readily summarised and packaged for other purposes.

10. Establishing a single authorised point-of-contact within government to handle data requests is essential. In the NTG this task was formally allocated to the Department of Chief Minister and Cabinet. For the Commonwealth, no formal arrangement was established, but the NIAA became a de facto conduit.

11. Establishing a single authorised point-of-contact within the data recipient organisation (the ALC Data Unit) with authority and capacity to serve as a long-term data custodian is equally essential.

12. Not all data required for regional profiling is available from administrative agencies. In this event, dedicated surveys, focus groups, etc. may be required. In any event, administrative data should always be authenticated where possible, using local knowledge and ground-truthing.

All of the issues listed above were encountered and worked through over the course of several months in the process of constructing the current community profile. This, of course, was just to provide the means to profiling a population. With this capacity in place, as it now is for the Groote region, the main question turns to securing the internal administrative structures for sustaining such a capacity. One proposition to the ALC Board, for example, is that they might require an annual update to the present report, or some variation thereof. At the very least, the advent of local decision-making will involve an on-going need for an evidence base and an adequately resourced Data Unit within the ALC governance structure is essential to providing this. Determining what this should look like, how it should operate, and what its future evolution might be, has been the subject of practical interaction between the FNP team and the ALC from the outset and the remainder of this section outlines progress to date in this regard.

Potential for a population monitoring system

Given the challenges faced in accessing data from administrative sources, one option is to develop an in-house population monitoring system modelled or informed by existing demographic surveillance sites (DSS) that operate throughout the world. DSSs monitor a geographically defined population over time (Taylor 2009: 124-126; Sankoh and Byass 2012). They begin with a baseline enumeration of the entire population, usually at the household-level. Then on a recurrent basis they conduct census updates, allowing for a longitudinal profile of everyone in the site to develop over time. Since many DSSs were established in rural areas where vital registration and other data systems were inadequate, they have historically focused on demographic indicators. For instance, during each household visit fieldworkers would come with a roster of who was in the

household at the last visit. They then update the roster, identifying deaths, births, and in- and out-migrants. Over time many sites have added other modules to the visits, such as socio-economic and household information, employment data, information on migrants who are away and why, and health questionnaires. DSS have also increasingly worked on data linkage, allowing them to link the population data with other administrative and government systems, such as health care clinics.

DSS data are then stored in a relational database – a series of tables that can be related to each other to build different types of data depending on the need. For instance, one table may include basic information about individuals such as their date of birth and gender. Another table might be related to pregnancies, where information about each pregnancy is recorded. The pregnancy table could then be linked to the individual table to identify the mother and her characteristics – permitting a detailed birth history for every woman in the DSS over time.

DSS data provide an exceptionally rich history of a population over time. This can be used to identify longer term trends or arising issues, identify inequalities that need to be addressed, etc. Because the data collection and storage are driven by the local community, it also allows each site to collect information that the community cares about and in a way that allows them to define culturally important social groups that may not align with traditional administrative systems. It also provides timely information that can inform planning. For instance, if there is an intervention implemented in the community, DSS data allow for the site to determine what effects it may be having over the short- and long-term. If instead the community would like to pilot a targeted intervention to a particular group, the population data allows for them to sample from that group to evaluate if the pilot worked or not.

Above all else, DSSs empower the communities that they serve. Current trends and results of research or other projects are presented and discussed with the community. Having available data on things most relevant to the community also provides them with information needed to engage with other organisations locally, regionally, and nationally to improve the lives of their community. This empowerment and voice to the community has meant that the vast majority of DSSs continue to have active engagement with the community over time – often exceeding acceptance rates of over 95% while operating over long periods of time (decades).

Anindilyakwa Data Unit to date

As discussed, an Anindilyakwa Data Unit has begun to evolve out of necessity throughout the production of this community profile. To be clear, the 'unit' has evolved using the intermittent services of re-purposed ALC staff with requisite skills from the ALC's Infrastructure and Community Support Programs combined with sporadic engagement of more than 20 Traditional Owners for survey work and ground-truthing. Along the way, several key functions emerged. First, the unit needs to build strong stakeholder engagement with internal data holders including ALC departments, Aboriginal Corporations, private sector interests and NGOs, and external government agencies. Second, the unit will inevitably be engaged with community members for the purposes of primary data collection and verification of administrative data. Third, the unit should become the central point of contact within the ALC structure to receive and store data from all sources and a secure data management system has been developed to support this role. Finally, and thinking more about the future, it became clear that a fully functioning ALC data unit would need to assume responsibility for the regular analysis and reporting of data.

Primary data collection

For the purposes of this report, it was necessary to undertake primary data collection to gather information on the community for cross referencing with government figures and filling gaps in unavailable data. Initially, this arm of the Anindilyakwa Data Unit was driven by the FNP with ALC assistance from nominated internal staff. Together, ALC and FNP staff have conducted population and employment surveys for the purposes for input to the community profile. Into the future, the ALC must now take a lead on primary data collection when directed by the ALC Board to investigate gaps in community data. While the ALC will need to take a lead on this function, there remain opportunities to lean on the existing MOU with the FNP to obtain expert advice on future data collection from leading academics in respective fields.

A central contact point

Another critical function of the Anindilyakwa Data Unit to date has been to act as a central contact point for government and other stakeholders to return data to the ALC. Currently, internal ALC staff have been assigned the task of receiving these data depositing them in accordance with the dedicated data management plan which is discussed later in this section. Into the future, this core function of the unit will likely be responsible for tracking and managing routine data updates from government and other agencies and will likely play an important role as LDMA agreements progress.

Analysis and reporting

The final core function of the Anindilyakwa Data Unit has been to analyse and report on the data that the unit has gathered and received. To date, this function has been outsourced to the FNP for the purposes of this report with assistance from experts from across the ANU. Looking to the future, the Anindilyakwa Data

Unit will need to analyse and report on data in an on-going capacity. This may take the form of an annual update of this report, and the unit may also be responsible for answering to the Board when important social and demographic questions are raised. To date, internal ALC staff have worked closely with the ANU project team to ensure that deep understanding and knowledge regarding the methodology of the current community profile is retained internally.

All functions of the data unit must be under-pinned by professional standards for data management, handling and storage that are in-line with accepted archival processes. To ensure this, a senior data archivist from the ANU team has worked collaboratively with ALC staff to guide the foundation of the data unit's archival process. This collaboration led directly to the development of data management tools and processes that are now instituted at the centre of the operation.

ALC data management

The data needs of ALC as outlined in this report showcase the need for a dedicated point of contact, archival processes, and technical infrastructure to enable data to be acquired, archived, managed and disseminated. Relationships need to be developed and grown with external data holders, and also internally within ALC to collect data locally in an ongoing basis.

Archival infrastructure

The ALC Data Management Plan was developed from a working report to define user requirements outlined in initial meetings held with ALC and ANU team members at the start of the project in late 2021. Immediate requirements were to create an archival workflow to provide a secure repository for the deposit, storage and access for all project related data. The archival workflows outlined in the ALC Data Management Plan are adaptable to both manual and programmatic processes,

as implemented by ALC staff – initially using spreadsheets and SharePoint, and now as a basis for the ALC's information management tool hosted on their Environmental Systems Solutions (ESS) platform. Successful implementation of the archival workflow to manage project data supports the robustness of both the high-level archival process for best practice, down to lower-level manual or programmatic procedures to receive, store, curate, archive, and disseminate ALC data

Future data collection and acquisition

Data collected and acquired for ongoing analysis, reporting, sharing and reuse have been shown to require domain expertise, and implementation of archival management processes under a structure such as a data unit. These requirements have proven to be essential in the project so far, especially when negotiating for future data governance in the existing data environment. Part of the data management process includes the capacity to generate metadata about the data, and in part to understand how the data should be used and accessed from cultural and ethical perspectives – for data sovereignty.

Metadata

A set of metadata fields were developed as part of the data management plan to manage the project-related data – whether from external agencies or within ALC, and have been implemented manually using a spreadsheet, and programmatically by ESS. Metadata ensures the provenance and preservation of data into the future. Domain specific metadata standards exist and further consideration should be given to where ALC can incorporate metadata standards into future data management.

Curation and versioning

Raw data as it is collected or received may need to be curated or prepared for analysis or reuse, as part of an archival workflow. Versions of data based on such workflows must be

recorded, as the final archived version will be different from the original collected version. Curation also involves data risk assessment, to consider the sensitivity of the data based on ALC measures for access and cultural protocols. Processes for operationalising data sovereignty should be considered as part of future data management.

Access and cultural protocols

Data held for reuse and sharing, both from within ALC and externally should follow a standard process as to how it should be managed. There may be risk associated with sharing data if it is defined as sensitive either culturally, commercially, or for privacy reasons. This ensures the data is preserved and shared appropriately. How this process is developed points to evolution of discussions around data sovereignty and data governance, and where and to what extent the ALC has both responsibility and authority to control data relating to Anindilyakwa.

Staff capability

The vision of an ALC Data Unit to continue collecting, managing and reporting on social science data about the Groote Archipelago indicates both the need to more formally implement an archival model, and the need for a high level of data competence in both analysis and understanding of this type of data. A dedicated data manager with a background in the quantitative social sciences could also be employed across ALC to support management of data from other domains such as cultural, environmental, and business for example. Data expertise already exists within these ALC domains, in positions held by rangers, linguists, anthropologists, spatial officers, and other technical and professional staff which could be leveraged with the support of an overarching ALC data manager.

The ALC Data Management Plan

The ALC Data Management Plan has been developed from requirements to preserve and utilise the value of data held by ALC, and for ALC. For data to hold value and be utilised, it must be stored, described, curated, and preserved for reuse. This allows data to become a resource for decision making, business planning, cultural heritage preservation and understanding complex problems. The data management archival processes outlined in this report are based on the Open Archival Information System Reference Model (OAIS 2000).

Data

The term 'data' in this report refers to digital or digitised data files and can refer to data in any format. Some common data file types are: text (txt); tabular (csv, xlsx); document (docx, pdf); image (jpeg, tiff); audio (mp3, wav); video (mp4, mov); and geospatial (.shp, .kml, raster). Data will have different levels of sensitivity, where Access Protocols need to be assigned as part of the curation process, from a cultural, research, and business perspective.

The Deposit, archive and dissemination process

The OAIS Model is an established approach to building archival workflows to manage both data and infrastructure to support data for sharing and reuse. Figure 8.1 illustrates the process.

Figure 8.1 *The ALC archival process*

The ALC Archival Process

As based on the OAIS model

DEPOSIT: The deposit process entails the initial contact with data depositors. It is the method by which the ALC data unit receives information from both external and internal stakeholders who are sending information to the ALC.

> Data is to be received via email or encrypted file transfer mechanism to the Data Unit.

ARCHIVE: The archive process is where the Data Unit has a conversation with the data depositors regarding where the data comes from, how it is going to be used, who can use it, and how it should be stored (Administration).

> Source data is received via the deposit process (Ingest process).

> Deposit related metadata is entered into spreadsheet stored on ALC data store (Ingest process).

> Data is stored in correct path (Storage process).

> The data is curated and processed. To curate the data is part of the 'archival process'. It prepares the data for preservation, storage, access management, and dissemination (Archive process).

> Dissemination versions are prepared if required (example: tiff to jpeg as jpegs are smaller and easier for users to download).

> Dataset metadata is prepared to describe the data content (this includes adding appropriate TO/TK data labels).

> Cultural Protocol (CP) versions are prepared if necessary (Multiple versions based on CP access).

> Data is stored in suitable directory structure.

> Cultural and/or Access Protocols are assigned (Protocol's for access management)

DISSEMINATION: This refers to the end user product which may be accessed via SharePoint, Mukurtu CMS, ESS software and ESRI products that provide built in access management. Protocols need to be established to manage access to data.

> Data is disseminated to the end user and access to data is managed by access and cultural protocols.

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