



Gender & Disaster Australia

Greater Perth

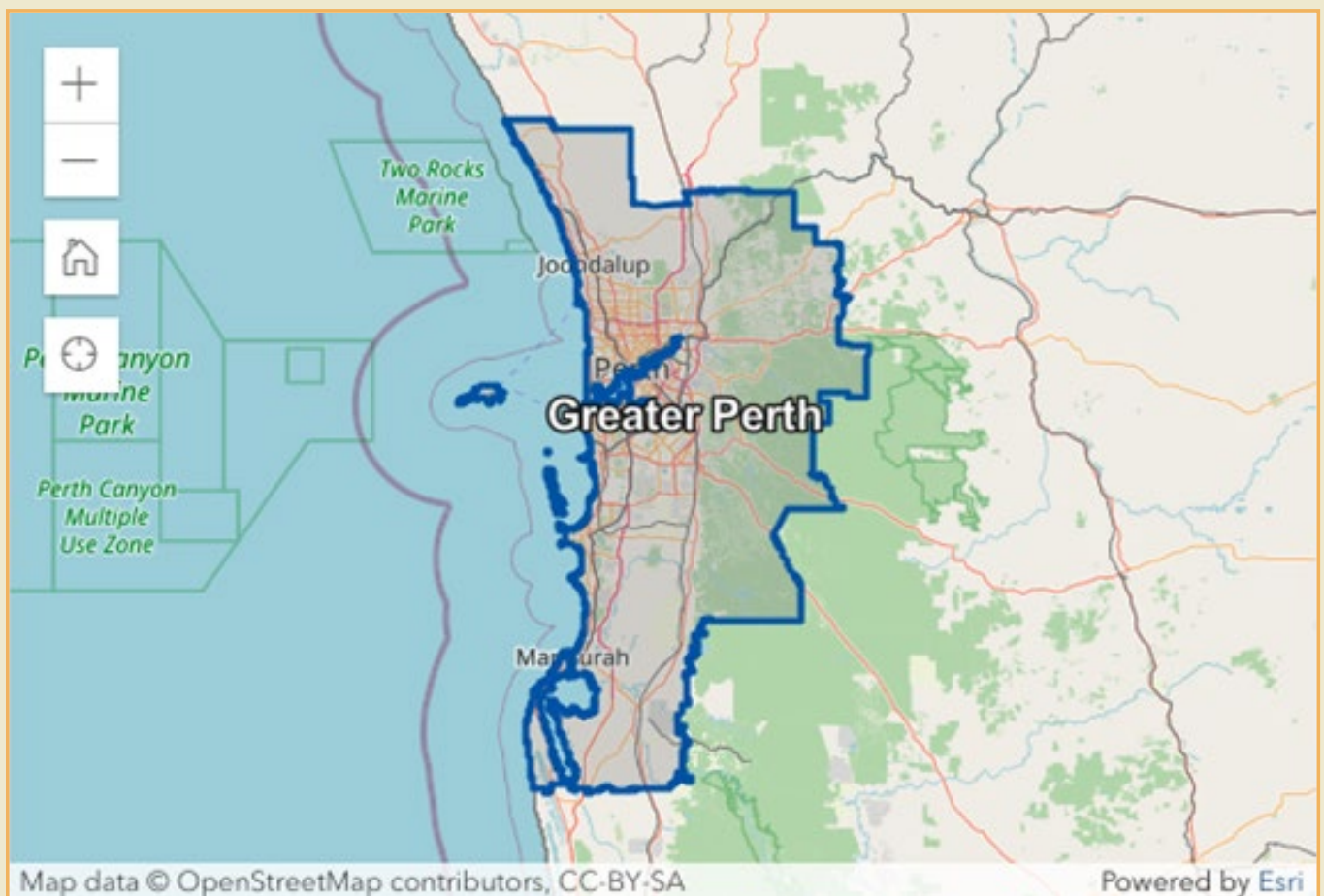
DISASTER CONTEXT

Socio-demographics from
a gendered perspective





Greater Perth



The area covered by this map, and considered in this factsheet, is the Greater Capital City Statistical Area of Greater Perth. This was selected as most useful as it covers the entire city and includes the Perth hills where there is considerable bushfire risk. Greater Perth includes 32 Local Government Areas (LGAs), including the LGA of Mundaring.

Two suburbs within Mundaring - Wooroloo and Parkerville - were affected by bushfires in 2021 and 2014 respectively. Data cited in this factsheet relate to the Greater Capital City Statistical Area of Greater Perth except where the LGA of Mundaring or the suburbs of Wooroloo or Parkerville are highlighted.¹

¹ <https://abs.gov.au/census/find-census-data/quickstats/2021/5GPER>



INTRODUCTION

Perth is the capital of Western Australia (WA) and is the fourth largest city in Australia. Like other major Australian metropolitan areas, its population is largely concentrated along the coast. The city sits on the Swan River, and most of the suburbs around it are built on the flat, sandy, infertile Swan Coastal Plain or the freshwater Perth Wetlands. To the east of the city rises a low escarpment called the Darling Scarp. The scarp and the hinterland to its east are colloquially known as the Perth Hills. Perth's geographic context makes it susceptible to strong fronts causing intense winds and cool-season storms. Although flooding from the Swan River has affected Perth in the past, annual rainfall has been decreasing steadily for decades, reducing the likelihood of flooding and of tropical cyclone hazards. The combination of wind and heat means bushfires represent the greatest disaster hazard to the Greater Perth area, particularly to those living in the Perth Hills.

After one such fire in 2005, the WA Government worked with Geoscience Australia and the Bureau of Meteorology to produce a Cities Project Perth report that provided a comprehensive hazard risk assessment for the greater Perth area.² The study demonstrated that action was needed to protect Perth more strongly against wind and earthquake hazards in particular, and identified areas where households had particularly limited capacity to recover after a disaster.

Further in-depth assessments of Perth's risk of and preparedness for bushfire emergencies were conducted by formal state government inquiries in the aftermath of bushfires in 2011 and 2021. The 2011 Special Inquiry³ argued that changes in climate and in community resilience

should catalyse reform to legislation and policy governing bushfire preparedness in the Perth Hills. The importance of agency for residents to make their own decisions and abide by their own 'fire ready' plans was emphasised. The 2021 operational review, prepared by the Australasian Fire and Emergency Services Authorities Council for the WA Government focused more on stronger coordination and implementation of existing bushfire mitigation strategies and management frameworks.⁴

After the 2014 Perth Hills bushfire, the Australian Red Cross began delivering whole-of-community emergency preparedness programs and resources in the Perth Hills. After the 2021 bushfire, Newnham et al. conducted an impact evaluation study of these measures for the Red Cross.⁵ The study found high levels of emergency preparedness among respondents, who reported "comprehensive knowledge of hazards, extensive household preparedness and strong connections within the community" (p.5). Most participants had a bushfire emergency plan and had used it during the 2021 bushfire. The most frequently reported long-term concern following bushfire exposure was mental health difficulty, and the study recommended delivery of mental health initiatives to support long-term recovery.

The 2014 bushfire was also the context for a notable Australian study of bushfire self-evacuation practices. Strahan et al. (2019) found that three factors predict whether people decided to evacuate or remain and defend: their perception that evacuation would protect their personal safety; their receipt of official warnings; and their perception of the threat to their property.⁶

2 Jones, T., Middelmann, M., Corby, N. *Natural hazard risk in Perth Western Australia*. Geoscience Australia. Available at: https://www.preventionweb.net/files/1556_GA6550.pdf

3 Available at: <https://www.wa.gov.au/system/files/2020-02/Inquiry%20-%20Perth%20Hills%20Bushfire%202011%20-%20A%20Shared%20Responsibility%20report.pdf>

4 <https://www.wa.gov.au/system/files/2022-09/Wooroloo-Bushfire-Review-2021.pdf>

5 Newnham, E.A. & Dzidic, P.L. (2022). *Australian Red Cross Perth Hills Preparedness Emergency Programs: Impact Evaluation*. Perth, Australia: Curtin University. Available at: <https://www.redcross.org.au/globalassets/cms/emergency-services/agency-resources/phep-impact-evaluation-report-2022.pdf>

6 Kenneth William Strahan, Joshua Whittaker & John Handmer (2019) Predicting self-evacuation in Australian bushfire, *Environmental Hazards*, 18:2, 146-172.



DISASTER BACKGROUND

Kind of disasters affecting this region/town: severe thunderstorms, bushfires, tropical cyclones, floods, heatwaves, coastal erosion⁷

Event name	Hazard Type(s)
Perth, Mandurah and South-West Coast Severe Storm, 1994	Storm
Storm - Bunbury & South Perth, 2005	Storm
Severe Storm, Perth, 2010	Storm
Perth Hills bushfire, 2011	Bushfire
Parkerville and Perth Hills Bushfire, 2014	Bushfire
Wooroloo (Perth Hills) Bushfire, 2021	Bushfire

Recent major disaster: Wooroloo/Perth Hills bushfire, February 2018

- Fatalities: 0
- People displaced:
 - More than 700 people registered at evacuation centres during the fire, and 230 stayed overnight
 - Evacuation centres were opened at the Brown Park Complex, Swan Active in Midvale, and Swan Active in Beechboro
- Properties and infrastructure affected:
 - 86 homes lost and a further 100 structures (mainly sheds and other farming buildings) destroyed or damaged
 - 10,500 hectares of land burnt⁹
 - More than 2000 residences affected by power outages
 - Impact and risk assessments were needed on 240 km of roads to allow a return to ordinary traffic access

⁷ https://www.preventionweb.net/files/1556_GA6550.pdf

⁸ Unless otherwise indicated, information comes from <https://knowledge.aidr.org.au/resources/bushfire-wooroloo-perth-hills-western-australia-2021/> and https://knowledge.aidr.org.au/media/8975/aidr_major-incidents-report_2020-21.pdf, pp. 20-21.

⁹ <https://disasterreliefaus.org/field-ops/operation-woods/>



- Insurance statistics:
 - At 24 June 2021, 1067 insurance claims had been received totalling \$92 million
 - By August 2021, this had risen to 1,102 claims totalling \$93 million, of which \$63.2 million could be attributed to personal claims and \$29.9 million commercial claims¹⁰
 - Of the personal claims, 86% were related to property, 12% to contents, and 2% to motor claims. Of the commercial claims, 93% related to property, 2% related to motor, 1% related to business interruption, and 4% were other claims¹¹
 - At March 2022, the Insurance Council of Australia (ICA) was reporting total claims amounting to \$99 million, and a closure rate of 87%¹²
 - In the media, the ICA reported that payments were delayed and closure rates reduced by the sheer number of disasters that occurred around the same time; by border closures, building supply shortages, and skilled labour shortages associated with COVID-19; and the lack of available temporary accommodation especially in rural areas¹³
- Other notable facts:
 - The bushfire coincided with the five-day lockdown of the Perth metropolitan area that was implemented as a result of the COVID-19 pandemic. This affected evacuation and emergency communication; for example, residents were permitted to evacuate to family member's homes and responders had to additionally manage COVID-19 safety.

*Recent major disaster: Parkerville/Perth Hills bushfire, January 2014*¹⁴

- Fatalities: 1
- People displaced:
 - 'Hundreds' evacuated and sought shelter at evacuation centres in Mundaring and Swan View
 - Many could not return until three days later when an extensive clean-up had been completed
- Properties and infrastructure affected:
 - 52 homes destroyed
 - 650 hectares of land burnt
 - 450 homes were still without power three days later

¹⁰ https://insurancecouncil.com.au/wp-content/uploads/2021/09/ICA008_CatastropheReport_6.5_FA1_online.pdf, p. 10.

¹¹ Ibid.

¹² <https://insurancecouncil.com.au/news-hub/current-catastrophes/catastrophe-211-perth-hills-bushfires>

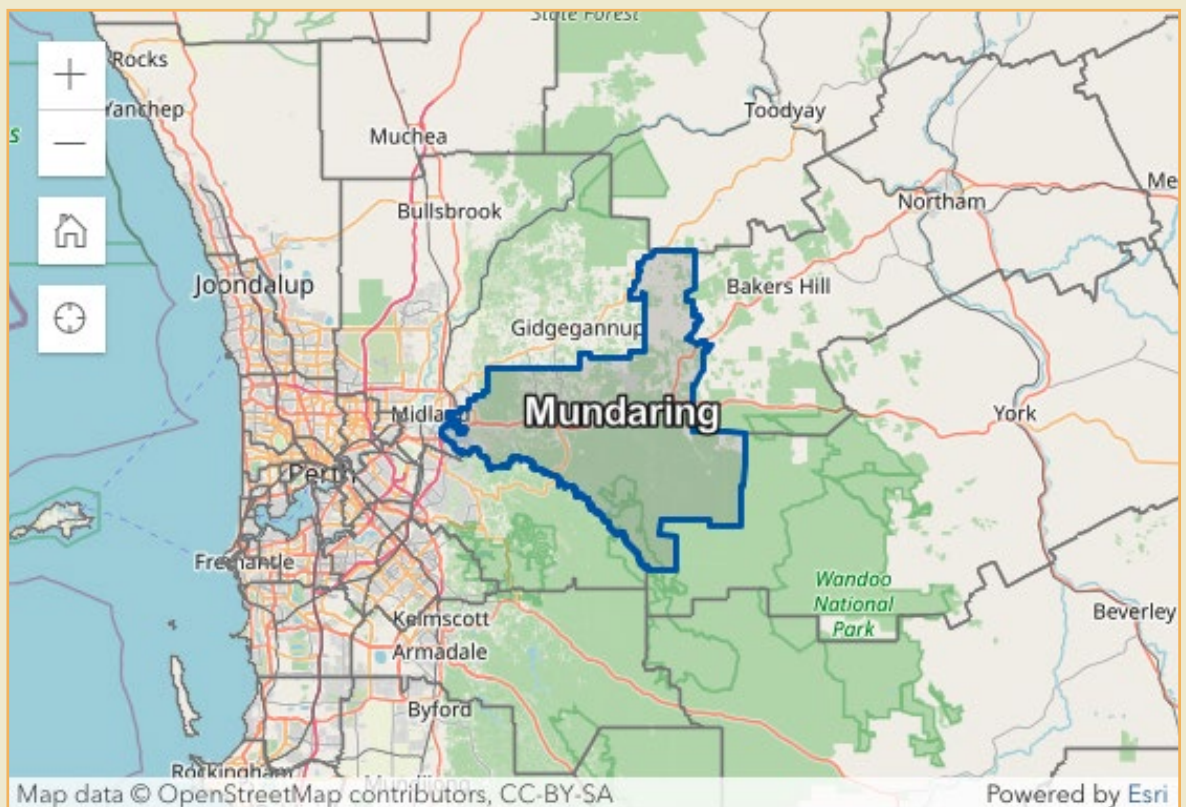
¹³ For example: <https://www.insurancenews.com.au/analysis/perfect-storm-insurers-battle-500000-catastrophe-claims-deluge>, <https://www.insurancebusinessmag.com/au/news/breaking-news/claims-giant-shines-spotlight-on-perth-hills-bushfires-246272.aspx>

¹⁴ Unless otherwise indicated, information comes from <https://knowledge.aidr.org.au/resources/bushfire-parkerville-and-perth-hills-western-australia-2014/>



- Insurance statistics:
 - Early figures from the Insurance Council of Australia placed the cost of the damage at \$15 million
- Other notable facts:
 - The fire took place during a heatwave that was characterised by multiple consecutive days over 40 degrees Celsius.
 - The bushfire was sparked by a fallen power pole, privately owned by a pensioner. In September 2022, the High Court of Australia found Western Power to be partially liable for the losses caused by the bushfire because it failed “to have a system for the periodic inspection of consumer-owned point of attachment poles used to support the network”. After the decision, Western Power began inspecting privately-owned power poles.¹⁵

15 <https://www.watoday.com.au/national/western-australia/western-power-loses-parkerville-bushfire-court-appeal-20221207-p5c4ku.html>



Map: The Perth Hills LGA of Mundaring, where both the Wooroloo and Parkerville fires were concentrated.





ECONOMIC DISADVANTAGE

- 14 out of the 40 least advantaged Statistical Area 2 (SA2) locations in Western Australia are in Greater Perth.¹⁶ Those with the least advantage are: Mandurah, Armadale-Wungong-Brookdale, Balga, Mirrabooka, Calista and Cooloongup.
- Two disadvantaged SA2s were geographically close to bushfires in the Perth Hills bushfires in 2014 and 2021: Armadale - Wungong - Brookdale, and Gosnells. However, the fires did not physically spread to these locations.
- Mundaring LGA, where the fires were concentrated, is ranked:¹⁷
 - 484 out of 544 LGAs in Australia (where 1 is least advantaged)
 - in the 9th decile (out of 10, where 1 is least advantaged)
 - In the 89th percentile (out of 100, where 1 is least advantaged)



HOUSING AFFORDABILITY AND HOMELESSNESS

- Housing affordability
 - Median mortgage repayments: \$1,907/mth (WA: \$1842/mth)
 - Mortgage stress:¹⁸ 13.3% (WA: 13.0%)
 - Median rent payments: \$350/wk (WA: \$340/wk)
 - Rental stress:¹⁹ 29.9% (WA: 28.3%)
 - Rental affordability: The Rental Affordability Index reports that rental affordability in Greater Perth has declined by 15% over the last two years, bringing it to its lowest point since 2016.²⁰ Greater Perth remains the second most affordable capital city, but low vacancy rates compound affordability issues for lower-income households. For a household on the median annual income for the LGA of Mundaring (approx. \$100,000), the Rental Affordability Index rates Parkerville 'Moderately unaffordable' for rental affordability. Data is not available for Wooroloo.²¹
- Homelessness
 - In 2021-22, 138 people accessed Specialist Homelessness Services in Mundaring,²² equating to 0.35% of the population, or 35 per 10,000.²³
 - 62 of these were men (16 per 10,000) and 76 were women (19 per 10,000)

¹⁶ <https://www.dote.org.au/western-australia>

¹⁷ These rankings come from the ABS Local Government Area Indexes, available here: <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2033.0.55.0012016?OpenDocument>,

¹⁸ Refers to the percentage of households with mortgage repayments exceeding 30% of household income

¹⁹ Refers to the percentage of households with rental payments exceeding 30% of household income

²⁰ https://sgsep.com.au/assets/main/Rental-Affordability-Index_Nov_2022_low-resolution.pdf

²¹ <https://www.housingdata.gov.au/visualisation/rental-market/rental-affordability-index-postcode>

²² <https://www.aihw.gov.au/reports/homelessness-services/shsc-data-cubes/contents/specialist-homelessness-services-collection-shsc-data-cubes>

²³ Calculation: Number of people divided by the population of the LGA of Mundaring (available here: <https://abs.gov.au/census/find-census-data/quickstats/2021/LGA56090>), multiplied by 100 for the percentage and 10,000 for the rate.





MENTAL HEALTH

- Mental health conditions (any): 8.4% (WA: 8.3%)²⁴
- Suicide rate for Statistical Area 3 (SA3) Mundaring, compared to the Statistical Area 4 (SA4) in which it sits, the state of Western Australia, and Australia as a whole.²⁵

Area	SA3 Mundaring	SA4 Perth - North East	Western Australia	Australia
Age-standardised suicide rate per 100,000 population	18.7	15.6	14.9	12.6
Rate for males	n/a	22.2	22.2	19.2
Rate for females	n/a	9.2	7.6	6.1



GENDER EQUALITY

- Lone parent status
 - 15.1% one-parent families (WA: 15.1%), of which 80.4% are female-led (WA: 79.9%)²⁶
- Mothers' Index (measured at LGA level)²⁷
 - Mundaring: 17 out of 137 LGAs, where 1 is the best place in WA for a mother to live
- Unpaid work
 - Unpaid domestic work: 497,499 women did more than 5 hours of unpaid domestic work per week, compared to 311,556 men
 - Unpaid care: 113,848 women provided unpaid assistance to a person with a disability, health condition, or due to old age, compared to 72,463 men
 - Unpaid childcare: 290,463 women provided unpaid childcare, compared to 209,470 men²⁸
- Violence against women (measured at suburb level)²⁹
 - Wooroloo: 6 sexual offences, 4 assault (family) offences, 4 threatening behaviour (family) offences in 2021-22
 - Parkerville: 8 sexual offences, 9 assault (family) offences in 2021-22

²⁴ <https://abs.gov.au/census/find-census-data/quickstats/2021/5GPER>

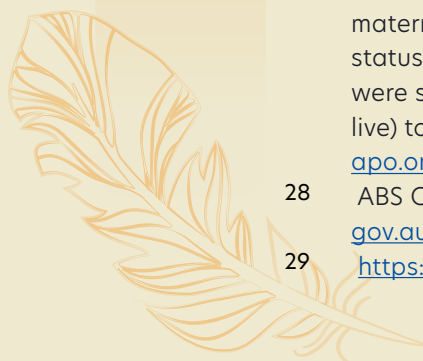
²⁵ Data table: 2021 National Mortality Database - Suicide, available at: <https://www.aihw.gov.au/suicide-self-harm-monitoring/data/data-downloads>

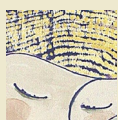
²⁶ <https://abs.gov.au/census/find-census-data/quickstats/2021/5GPER>

²⁷ The Mothers' Index consists of composite scores from five different indicators relating to maternal wellbeing (maternal health, children's wellbeing, educational status, economic status and socio-economic disadvantage), with each indicator given equal weighting. Scores were sorted from low to high and ranked from 1 to 137 (1 being the best place for a mother to live) to give the overall Mothers Index rank for each LGA in WA. Full table available at <https://apo.org.au/node/63692>, p. 32.

²⁸ ABS General Community Profile for Greater Perth, Tables G24-G26, available here: <https://abs.gov.au/census/find-census-data/community-profiles/2021/5GPER>

²⁹ <https://www.police.wa.gov.au/crime/crimestatistics#/>

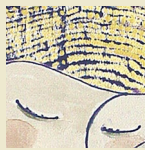
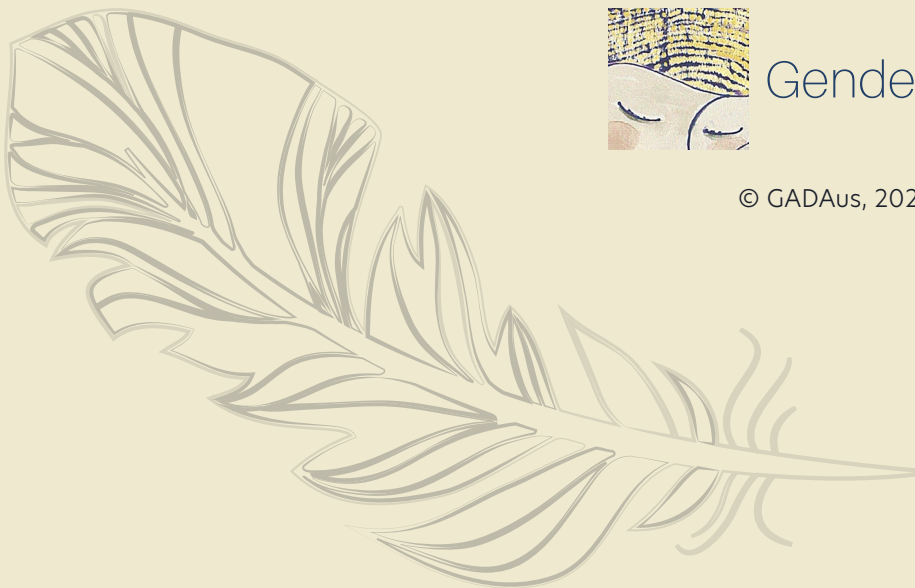


**DEMOGRAPHIC INFORMATION FOR GREATER PERTH³⁰**

	Greater Perth	WA	Australia
Median age	37	38	38
Aboriginal and/or Torres Strait Islander	2.0%	3.3%	3.2%
Both parents born in Australia	33.8%	37.9%	45.9%
Non-English language used in household	23.7%	21.2%	24.8%
With university education	26.5%	23.8%	26.3%
Year 10 as highest qualification	10.3%	11.3%	10.0%
Labour force participation	65.2%	63.9%	61.1%
Working part-time	32.5%	32%	31.2%
Unemployment	5.3%	5.1%	5.1%
Median weekly personal income in	\$859	\$848	\$805
Median weekly household income	\$1865	\$1815	\$1746
Rate of people on Disability Support Pension per 10,000 population (available at LGA and state level) ³¹	Mundaring LGA: 171	222	294

³⁰ Unless otherwise indicated, all data drawn from: <https://abs.gov.au/census/find-census-data/quickstats/2021/5GPER>

³¹ Calculation: number of DSP recipients from DSS data (670, available in the Expanded DSS Benefit and Payment Recipient Demographics - December 2022 table here: <https://data.gov.au/data/dataset/dss-payment-demographic-data>) divided by population of the LGA of Mundaring (39,166, available here: <https://abs.gov.au/census/find-census-data/quickstats/2021/LGA56090>) and multiplied by 10,000.



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