

Shire of Dandaragan Ward Boundary Review:

Fair Community Representation

KIRSTEN MARTINUS

**CENTRE FOR REGIONAL DEVELOPMENT
SCHOOL OF EARTH AND ENVIRONMENT**



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The views expressed and the conclusions reached in this publication are those of the author and not necessarily those of persons consulted.

Author

Dr Kirsten Martinus
Centre for Regional Development
School of Earth and Environment
The University of Western Australia
Crawley WA 6009

Email: kirsten.martinus@uwa.edu.au

Website: <http://www.crd.uwa.edu.au/>

Centre for Regional Development Contact Details

Centre for Regional Development
School of Earth and Environment
The University of Western Australia
35 Stirling Highway
Crawley WA 6009
Australia

Website: <http://www.crd.uwa.edu.au/>

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1. Introduction

The Shire of Dandaragan covers an area of 6,716 square kilometres stretching from the Western Australian coast to in-land Wheatbelt area. It is about 200 km north of Metropolitan Perth (less than 2 hours), with good access to inland towns along the Brand Highway and to the coastal towns along Indian Ocean Drive. It is defined as having four distinct communities of interest centred on the towns of Dandaragan, Jurien Bay, Cervantes and Badgingarra. It has two largely separate industry profiles, with towns on the coastal stretch related primarily to tourism and crayfishing and those inland to agriculture. It has a strong regional economic growth strategy leveraging assets such as water, land abundance and fertility, topographical features and proximity to Perth.

The people of the Shire of Dandaragan can be characterised by their strong passion as both Shire residents as well as members of one of the four distinct communities of interest. They have appreciation for the diversity of its coast and agricultural lands, as well as a desire for the fair representation of each of the four communities in governance, community and economic considerations. The latter associated with the initiation of a ward boundary review in 2016, and the driver behind this report, given the zero representation of Badgingarra on the Shire Council for the two-year mid-2014 to mid-2016 period.

The primary concern for Shire residents is that the less populated communities of Badgingarra, Dandaragan and Cervantes will have increasingly no representation as the population in Jurien Bay grows. The Shire of Dandaragan Council proposed a review of the current no wards situation and the consideration of reverting back to a four wards system. Five ward options were submitted to Council. These are given in Appendix 1. *Option 1* is a map of Shire boundaries used when four wards previously existed. *Option 2* is an alternative four ward option. Boundaries have been redrawn such that the elector-to-councillor ratio falls within the Department of Local Government stated plus or minus ten per cent criteria. *Option 3* is the previous two-ward system. This option places Badgingarra and Jurien Bay in the same ward, thereby presenting Badgingarra with a lower probability of representation than the current no-ward system. *Option 4* is a third alternative to the four-ward system, with boundary lines redrawn to take into account the changes to topography introduced by the construction of Indian Ocean Drive. *Option 5* is an alternative two-ward scenario, where boundaries are redrawn to redistribute Badgingarra farming populations to the South ward. In doing so, it lowers the chances of representation in Badgingarra even further than in the Option 3 two-ward system.

The initial aim of this report was to provide ward boundary recommendations based on an

analysis of six ward boundary scenarios – the five submitted to council and the current no ward system. The analysis was informed by the five factors for consideration as set out by the Department of Local Government and Communities in Schedule 2.2 of the Local Government Act 1995 (hereafter called the Act). This was achieved through a statistical analysis of the region in the context of each boundary scenario as well as interviews with key Shire of Dandaragan community and government stakeholders.

Before arriving at the interviews, I read through the public submissions to the Shire on the ward boundary preferences extracting relevant parts for this report as well as completing the initial analysis of the five factors for consideration when doing a ward boundary review (according to the Act). From this, I strongly believed that reverting back to a four-ward system was the only way to ensure fair representation of the four very distinct and proud communities. However, from the very first interviews, it became clear that the issue was not with the wards but with fair representation of the four communities. Indeed, many were asked the question ‘if there was a way for fair representation of the four communities in a no-ward system, would you be happy with no wards?’; the unanimous answer was ‘yes’. In addition, I became acutely aware of the multitude of alternative and competing perspectives and understandings prevalent amongst the key Shire stakeholders. As such, interviewee responses did not represent a ‘truth’ per se, but a part of a ‘truth’. The reasons for these different perspectives varied with some based on:

1. Incomplete information or knowledge on complex regional issues. This was primarily due to narrow-minded focus on the development of their own community rather than the Shire as a whole;
2. A lack of education regarding the justification and impact of council decisions, as well as the activities of Councillors in other wards. For example, why the Shire had moved from four-ward to a two-ward and then to a no-ward system, the effect of postal voting on small communities, that fair representation also meant quality candidates as well as the range of Councillor activities and underlying motivations for decisions; and,
3. A lack of understanding of State government processes regarding amalgamation and ward boundary changes. Indeed, it is difficult to construct an absolutely water-tight evidence-based argument around anecdotal evidence of a ward ‘preference’ given the reluctance with which the Local Government Advisory Board considers submissions to revert back to a wards system.

These understandings shifted the aim of this report somewhat from its initial focus on recommendations centred on ward boundaries to one concerned with fair representation

which acknowledged and addressed underlying structural disadvantages between the communities. As such, the reports' overarching objective became to analyse and make recommendations on the scenario most likely to generate fair community representation both now and into future.

The remainder of the report is structured as follows. Section two details the methodology for the analysis, with a focus on the interviews and ethical considerations in gathering the highly sensitive and politically-charged data. Section three outlines representation in the region this includes its history, councillor activities and voting patterns. Section four discusses the five factors for consideration as given in Schedule 2.2 of the Act. Section five offers concluding comments and recommendations.

2. Approaching this report

This report is based on a thorough investigation of the social, economic, topographical and environmental factors making up the Shire of Dandaragan. The information being sought is in accordance with State Government guidelines for ward boundary review. As such, the Shire of Dandaragan (staff or councillors) had no influence over how this research was conducted. The majority of data for the quantitative analysis of this report came from two sources: 1) Australian Bureau of Statistics (ABS) which informed the demographic and economic analysis sections (see sections 4.3 and 4.4); and, 2) the Shire of Dandaragan for elector and councillor information (see sections 3.1, 3.2 and 4.5). The qualitative information provided in this report was gleaned through a series of community and government interviews. These provided perspectives on ward social and economic identities, along with professional opinions on ward configurations and characteristics. Desk top research provided further and supporting information to contextualise report qualitative and quantitative findings.

Interview questions were open-ended and unstructured, intending to explore: a) communities of interest from the point of view of ward councillor representatives and/or community members; and b) ward boundary characteristics from the professional viewpoints of interview participants from the Department of Local Government and Communities and the Shire of Dandaragan. A total of 27 interviews were conducted, each of 30 mins in length. In addition, the researcher consulted with the Western Australian Department of Local Government and Communities (DLGC) on the importance of the five factors when a ward boundary review is under consideration by the Local Government Advisory Board.

Interviewees can be divided into two groups. The first group comprised of community members representing each of the four town sites and associated surrounding areas. This included all councillors. Each community had at least 4 interviewee representatives, including any combination of councillors, ex-councillors or knowledgeable community members. Any interviewees unable to attend the interview session were given the opportunity to come to the University of Western Australia for interviews or via phone. The second group of professionals consisted of interviewees from the Department of Local Government and Community and the Shire of Dandaragan.

Participants were selectively chosen for their ability to discuss the questions (see Appendix 2 for outline of questions) from their perspectives as representatives of the wider community or their professional understandings of the Shire of Dandaragan. All participants were emailed a set of questions, maps of five scenario ward boundaries, an information sheet and consent form before the interview. At the interview, the researcher provided hard copies of the documents; these were reviewed with participants, before consent forms were signed. Interview data was digitally recorded and stored on a password protected work computer. The researcher was the only person present and who currently has access to this data (i.e., the tapes are not available to Shire of Dandaragan staff or councillors). Data will be kept for at least seven years after which time it will be disposed of.

Interview comments were de-identified within this report to ensure confidentiality. Participants were informed of this before agreeing to the interview, this was also clearly stated on the prior-emailed information sheet. If it is possible to infer an individual interviewee through a unique identifiable response, the researcher contacted the individual to obtain consent for a statements' use. This was needed to be done only in one case, and permission granted. The interviewees were critical in providing an understanding of how the community perceives itself, as well as the types of characteristics or features that ensure effective boundary divisions. This information was used to inform all below sections of the report, in particular sections 3.1, 3.2, 3.3 and 4.1. In addition, it was also used to provide further information in the introductory sections of 4.3 and 4.4.

3. Representation in the Region

This section provides a historic and contemporary overview of representation in the Shire of Dandaragan. This includes the history of ward representation, the activities councillors currently undertake to represent their communities and voting patterns across the communities.

3.1 History of wards and representation of the four communities

The original Shire of Dandaragan as formed in 1961 had no wards, this moved to a four ward system (see Appendix 1 – option 1) upon concerns of lack of representation from the Jurien Bay community and a whole-of-shire petition requesting council consider the introduction of wards. The four wards were based on the four communities of Badgingarra, Dandaragan, Cervantes and Jurien Bay. The history of ward boundaries and councillor numbers is given in table 1.

Table 1: History of ward boundaries and councillor numbers

Approx.Year/Ward	No. Councillors	Total councillors / Ward changes
Prior 1971		
No wards	9	
1971		
Coastal Ward	2	9 Councillors; Wards introduced
Central Ward	2	
North Ward	2	
South Ward	3	
1981		
Coastal Ward	3	9 Councillors; Coastal Ward gained one Councillor, South Ward lost one Councillor
Central Ward	2	
North Ward	2	
South Ward	2	
1986		
Coastal Ward	4	10 Councillors; Coastal Ward gained one Councillor
Central Ward	2	
North Ward	2	
South Ward	2	
1987		
Jurien Ward	3	10 Councillors; Coastal Ward split into Jurien (3 Councillors) and Cervantes (2 Councillors) Wards; North Ward lost one Councillor
Cervantes Ward	2	
Central Ward	2	
North Ward	1	
South Ward	2	
1988		
Jurien Ward	3	10 Councillors; North, South and Central Wards abolished and new North and South Wards established.
Cervantes Ward	2	
North Ward	2	
South Ward	2	

Approx.Year/Ward	No. Councillors	Total councillors / Ward changes
1990		
Jurien Ward	3	10 Councillors; South and North Wards renamed Dandaragan and Badgingarra Wards
Cervantes Ward	2	
Dandaragan Ward	3	
Badgingarra Ward	2	
1992		
Jurien Ward	3	9 Councillors; Dandaragan Ward lost one Councillor reducing total number of Councillors to nine.
Cervantes Ward	2	
Dandaragan Ward	2	
Badgingarra Ward	2	
2005		
North Ward	5	9 Councillors; Jurien and Badgingarra Wards amalgamated to create North Ward; Cervantes and Dandaragan Wards amalgamated to create South Ward
South Ward	4	
June 2009	9	9 Councillors; Discontinued Wards system.

The four ward system enabled the Shire to successfully address its rapid development from the 1970s to 1990s; each ward was well-represented with councillors largely working together for the betterment of the whole Shire. In 1995, a New Local Government Act introduced five guiding factors to be considered in regular ward representation reviews (community of interest, physical and topographical features, demographic trends, economic factors and ratio of electors to councillors in the various wards). This resulted in the move to a two-ward system, driven largely by elector-to-councillor ratio, which is required to fall within plus or minus ten per cent for consideration by the Local Government Advisory Board. This was increasingly difficult to achieve given the exponential growth of Jurien Bay in relation to the other communities, and meant a continual shifting of boundaries and costly Local Government Advisory Board reviews to satisfy elector-to-councillor ratio requirements.

Indeed, the adoption of the two-ward system in the Shire of Dandaragan must be contextualised by three broader issues faced by the whole of regional Australia, not just Dandaragan. These issues are associated with the driving forces of globalisation or the increasing need to remain globally competitive despite rising labour and falling transportation costs. First, the consolidation of regional populations in capital cities and large towns primarily on the coast, which has been facilitated by an increasing mobile workforce through the rise of FIFO and DIDO (etc) contract options. Second, pressures to raise farm productivity to remain globally competitive, such as through broad-acre farming. Finally, the general amalgamation trend of governments worldwide, which more recently has seen the reduction the number of local government areas (LGAs) across Australia.

The costs involved in regular ward boundary reviews of the State Local Government Advisory Board was seen as a waste of rate payer funds, with the north-south ward boundary split presenting no more reassurance of representation for the four communities than no boundaries. In fact, if based on overall elector numbers, it was statistically harder for the least populous Badgingarra being with the most populous Jurien Bay. As a result, the ward system was abolished in 2009.

Nonetheless, the recent two-year nil-representation of Badgingarra has raised concerns, creating instability and mistrust in the community representation process. This became apparent during the interview process. Interview findings highlighted several factors related to fair community representation which must be considered in a ward boundary review:

1. The strong electoral returns of the candidates in the Cervantes, Dandaragan and Badgingarra communities in the most recent election support the view that it is possible for good candidates from these communities to be elected.
2. Whilst there are five factors for ward boundary consideration in State Government guidelines, I received advice from the Department of Local Government and Communities that the elector-to-councillor ratio is highly valued in the review process, particularly in the introduction of new wards. If the ward system is adopted, the continuing population imbalances between Jurien Bay and the other communities will mean never-ending costly boundary adjustments reducing the size of the Jurien Bay ward and increasing the other wards.
3. The introduction of the postal voting system where increases in voters from Jurien Bay favours Jurien Bay councillors.
4. The perceived strong disconnect between rural and coastal communities in terms of understanding needs. This is particularly felt through a sense of belonging in rural areas given that the Shire administration is located on the coast, the majority of councillors reside on the coast, and the large workload of the Shire associated with the development of Jurien Bay as a SuperTown.
5. Perception of competition and rivalry between all four communities, where a balance of power is needed to ensure community satisfaction and Shire stability.
6. Value of preserving the diversity of voices across the Shire, and that this is only achieved by having all communities heard in the decision-making process.
7. Chasing population through adjustments in boundaries just to satisfy the elector-to-councillor ratio criteria misses the point of the communities of interest, as well

as the huge economic potential and productivity of the land where there are less persons.

[3.2 How a Councillor represents a community](#)

Theoretically in a no-ward system, a councillor is elected to represent the entire Shire. All interviewees reflected this noting they individually worked hard to represent communities outside of where they lived. However, when talking about Council achievements, the majority of councillors discussed projects relating to the community they lived in. This pointed to an unconscious bias towards their community of residence which, while outwardly noted by some, most were totally unaware they possessed. Dandaragan, Cervantes and Badgingarra community interviewees thought that Council was under overwhelming pressure to attend to the 'wants and needs' of the ever-rising population of Jurien Bay. In contrast, many noted that representation in the farming communities of Dandaragan and Badgingarra had been impacted by population losses as well as farm operational changes to increase efficiency by becoming bigger and employing more seasonal casual workers (such as backpackers and part-time operators).

Councillors receive an allowance to compensate them for the many volunteer hours dedicated to representing the Shire (approximately \$16,000 per annum per councillor, with the Shire President receiving \$26,720 per annum). Jurien Bay councillors reported putting in between 11 to 18 hours per week, rural councillors between 33 to 38 hours per week and the Shire President 38-45 hours per week.

In general, community representation occurs through various activities the councillors are involved in, such as informal community interactions and formal council meetings and discussions. These various forums allow information and concerns of the community to be raised with councillors. However, the breadth of these activities mean community representation is a time-consuming process, making it difficult to give equal attention to all communities of the Shire and placing high value on the importance for small communities to put forward a quality and dedicated candidate to represent them.

From an informal standpoint, this information gathering occurs through the various social and other groups the councillor is a member of, as well as casually in the local pub, where a community member discusses a particular issue to a councillor 'over a beer'. This is most likely to happen in a councillors' own community of Jurien Bay, Badgingarra, Dandaragan or Cervantes, and least in any of the other three communities.

From a formal standpoint, it occurs through council meetings (Ordinary and Special Council

Meetings) and forums. In the 2015/16 Financial Year, there were twelve Ordinary (held on the fourth Thursday of each month) and two Special Council Meetings for the six Councillors from Jurien Bay, one from Cervantes, one from Badgingarra and one from Dandaragan communities. 164 decisions were made by Council at these Ordinary and Special Meetings, of which 155 decisions (or 94.51 per cent) were without dissent (e.g., 9/0, 8/0, 7/0). The total time spent in the twelve Ordinary Council Meetings was 698 minutes; an average of just over 58 minutes per meeting. The two Special Council Meetings took a total of 50 minutes; an average of 25 minutes per meeting. It can be concluded from the time spent in Council Meetings and the number of unanimous decisions that these formal meetings form only a small part of a Councillors time/ duties. The finding of the high number of unanimous decisions does not support interviewee perceptions that tensions between councillors impact negatively on council decision-making.

Council Forums are slightly different, being discussion sessions for Councillors and Staff where no decisions are made. Possible items include policy matters, receiving of delegations from Government agencies or developers, or on-site inspections of projects. They are held on the second and fourth Thursdays of each month before Council meetings. The Forums held on the second Thursday were estimated to take about five hours or 300 minutes, and on the fourth Thursday to take about two and a half hours or 150 minutes. A total of 450 minutes each month or 5400 minutes per annum is spent in these forums, which is considerably more time than the Council Meetings where the actual decision-making takes place.

Overall, councillors spend more time in their communities at other meetings, social or sporting gatherings, on the telephone to ratepayers discussing issues (etc) than at Council Meetings or Forums. This actual community engagement becomes an important part of a Councillors' role. Given distances involved in the Shire and the already heavy commitments of individual councillors to their own communities, Councillors will find it difficult to engage with communities other than their own. As such, individual representation for each of the communities is important in providing a comprehensive Shire voice in the decision-making process.

[3.3 Voting patterns across the communities](#)

The one-vote-one-value system was implemented to give all electors of the district equal say in who was elected to Council irrespective of land ownership or rates paid. If all Shire electors vote, this system generates a structural bias in favour of the significantly larger population of Jurien Bay over the smaller populations of the other three communities.

Despite this, fair representation was achieved in the two-ward system for all but the two years from 2013 to 2015 (one election cycle).

This is largely because of the different characteristics of Jurien Bay voters compared to those of the other communities. Most interviewees stated that Jurien Bay could be characterised by persons who are relatively new to the region, and therefore have a lower invested interest in local politics and knowledge of who is running. Interviewees stated that this means the Jurien Bay elector base tends to be more apathetic than that of the other smaller, more tightly, connected communities. This is evident in the capacity of the smaller communities to be represented, with the exception of the two-year period, under the one-vote-one-value system despite the larger voting base of Jurien Bay.

In 2011, the postal vote was introduced to make it easier for electors to vote. This had the immediate impact of increasing the number of votes returned in subsequent elections. Whilst on the surface greater participation in the voting process is beneficial, it had a detrimental impact on the capacity of the three smaller communities to be represented. By making the voting process easier, electors who would not normally vote were encouraged to participate. These are likely to be people who do not take an active interest in local politics, the majority of which are likely to be from Jurien Bay given their less-active voting profile and larger proportion of the Shire of Dandaragan population. Decisions on which candidate to support will likely be based on locality rather than knowledge of candidate qualifications or capacity to represent the community. As such, these decisions are most likely to follow Jurien Bay candidates.

Interviewees observed that the less active political participation of Jurien Bay electors contrasted with the more active voting characteristics of the more tightly-connected smaller communities who wanted to ensure their voices were represented on Council. Interviewees thought the members of such communities would likely vote irrespective of the postal voting system. Therefore, it was suggested that abolishing the postal voting system will lead to greater proportion of participation from electors actively concerned with local politics (as apathetic voters will not bother) and a lower proportion of participation from Jurien Bay electors (who are statistically a larger portion of the population).

The previous two-ward system combined the different coastal and rural communities of interest to the north and south. Table 2 details the representation over the various election cycles. All communities were represented by at least one councillor in all periods except the recent 2013-2015 where Badgingarra had nil representation. However, it must be noted that Badgingarra had been previously over-represented according to plus or minus ten per cent

elector-to-councillor ratio, having two councillors over the nine years from 2003 to 2011.

At local government elections only around a half are elected in each cycle, which means half of the Council are 50 per cent through their four-year term at each election. For example, after the 2003 election, the Badgingarra Ward had two Councillors. One had a two-year term and one had a four-year term. Following the 2005 and 2007 elections, there were two Councillors from the Badgingarra area in the North Ward. However, after the 2009, 2011 and 2013 elections, there were respectively two, then one, then no Councillors from the Badgingarra area in the newly adopted no-ward system. In the recent 2015 election, again under the no wards system, there is again one Councillor from Badgingarra.

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Table 2: Election summary data

Election year	Type of election	No. candidates	No. councillors	Newly elected Councillor community	Voting	No Council representation
2003	In person	5	5	4 Wards = 2 Jurien Bay / 2 Cervantes / 1 Badgingarra		
2005	In person	5	5	2 Wards = 3 North Ward (1 Badgingarra / 2 Jurien Bay); 2 South Ward (Cervantes)		
2007	In person	5	5	2 Wards = 3 from North Ward (2 Jurien Bay / 1 Badgingarra); 2 South Ward (1 Cervantes / 1 Dandaragan)		
2009	In person	6	4	No wards = 2 Jurien Bay / 1 Cervantes / 1 Dandaragan	2284 electors on roll; 29.95% voted	
2011	Postal	9	5	No wards = 2 Jurien Bay / 1 Cervantes / 1 Badgingarra / 1 Dandaragan	2339 electors on roll; 52.07% voted	
2013	Postal	8	5	No wards = 4 Jurien Bay / 1 Dandaragan	2499 electors on roll; 42.82% voted	Badgingarra (2 years)
2015	Postal	10	6	No wards = 3 Jurien Bay / 1 Cervantes / 1 Badgingarra / 1 Dandaragan	2447 electors on roll; 48.88% voted	

4. Local Government Ward Boundary Review Factors

This section reviews the five factors to be considered when undertaking a ward review process in accordance with Schedule 2.2 of the Local Government Act 1995 (the Act). These factors are:

- Community of interest;
- Physical and topographical features;
- Demographic trends;
- Economic factors; and
- The ratio of councillors-to-electors in various wards.

These factors are assessed in terms of the whole Shire as required by the Act, with the impact of different ward scenarios noted if and where relevant.

4.1 Community of interest

The term ‘community of interest’ has a number of elements. These include a sense of community identity and belonging, similarities in the characteristics of the residents of a community and similarities in the economic activities. It can also include dependence on the shared facilities in an area as reflected in catchment areas of local schools and sporting teams, or the circulation areas of local newspapers. Neighbourhoods, suburbs and towns are important units in the physical, historical and social infrastructure and often generate a feeling of community and belonging.

One interviewee stated that this factor appeared to be important to the Local Government Advisory Board with their local government reform agenda also pivoting around communities of interest. This same Board will assess the application to reinstate a ward structure for the Shire of Dandaragan if Council resolves to do so.

The Shire of Dandaragan is characterised by several strong communities of interest determined primarily by people’s perception of where they belong. Identifying these communities of interest is critical to understanding ward boundaries. Despite static or slightly declining populations, all have growing infrastructure and strong communities which foster community identity and town development. All are passionately invested in sport and social events each having an oval, community centre, public facilities, school,

golf club, bowling club, tennis club, football team etc. All also have a local newsletter.

There is a general belief in each of the four communities that coastal councillors cannot adequately represent a rural area 100 kilometres away as they do not understand the different communities of interest. This is primarily because councillors: 1) cannot attend many (if any) functions outside of their own community; 2) do not understand the needs of communities outside their own; and, 3) cannot physically cover all the communities of a large Shire. From interviewee comments, there are two views in how communities of interest are represented in Dandaragan:

1. Their unique economies as defined by coastal and rural activities.
2. The unique character of their four main townships and surrounding areas.

Unique economies

The topography of Dandaragan creates natural communities of interest as it defines the main economic activities undertaken on the land.

To the west is the coast where there is primarily tourism and crayfishing. These communities have a large proportion of holiday homes and transient tourist populations. There is a perception that these residents are relatively new and do not understand the history of the region, including the role of the rural areas in supporting the coastal development.

To the east is rural land where a more diverse range of activities are carried out, such as horticulture, agriculture and mineral sands production. Future projects include land-fill facilities, abattoir, wind farms, gas exploration/production, and foreign investment in agriculture land. These communities are stable, with some families having been there since the mid-1800s (in Dandaragan) or early 1900s (in Badgingarra). Issues in this region tend to focus on the provision of good roads for services (school bus, ambulance, etc) and product logistics (trucking). There is a feeling of dislocation from the coastal areas and a perception that coastal residents have little understanding of rural needs. Representation concerns of residents in these areas must be contextualised by the time constraints faced by farmers operating large farms with heavy overhead costs, limiting them from running for Council positions.

The unique character of the townships

The unique characters of the four townships and their surrounding areas have generated four distinct communities of interest. Each of the towns is heavily invested in various sporting clubs which move around the Shire for competitions. This contributes to a healthy competitive rivalry between the communities.

Jurien Bay is defined by its historic but declined fishing industry, its government administrative function and range of commercial infrastructure. It largely services a domestic tourism market, having a range of accommodation and holiday homes for a transient tourist population. It has been identified by the WA State Government as a SuperTown and therefore has received major funding to assist with its planning and development. It has a relatively large retiree population with 34 percent being over 55 years, and 44 percent within the 15 to 55 year age range.

Cervantes is similarly a fishing and tourism town, but with less development. It is named after a shipwreck found near its coast. One interviewee participate stated that it saw itself as more 'international' than Jurien having the global attraction of the Pinnacles, as well as an established crayfishing industry that sells direct to overseas clients.

Dandaragan is the oldest town founded in the mid 1800's, with land passed through the generations of many of its families. Many Dandaragan farming families are geographically closer to Moora and therefore use it as their regional centre over Jurien Bay. This includes accessing services, such as banking, farming supplies, retail, medical and school, and commuting there for work. Moora has many of the major community-based interests in terms of concerts and clubs like Rotary. As such, many Dandaragan residents have a strong community of interest with Moora. There is very little community of interest with Jurien Bay or Cervantes, with Dandaragan residents going there a few times a year only if they are involved in clubs (such as RSL), to play competitive sport (e.g., bowls, football - maybe 5 times a year part of a Shire league) or go to the beach or fishing.

Dandaragan townsite was the original location of the administration of the Council until it moved to Jurien Bay in 2004. Dandaragan residents are extremely proud of their heritage as the oldest community, and their contribution to the development of the entire Shire. This has created conflict and mistrust between the Dandaragan community and Jurien Bay, with many still bitter over the move of the Council to Jurien Bay.

Badgingarra is similarly a farming community, but settled later than Dandaragan due to the widespread presence of poisonous plants and sandier soils. In 1959, the State government opened up the Badgingarra Research Station to assist farmers with the development of their agricultural businesses. It is a small but very close-knit passionate community with a reputation for self-help. It is renowned for its abundance of wildflowers, remnant vegetation and convenient access to a major highway.

Analysis of relevant ward options

Neither of the proposed two-ward (divided north and south) align with the communities of interest associated with the coast and rural lands or unique character of the townships. A east-west partitioned two-ward system would fit the communities of interest, but is not viable as it does not address the concerns motivating this ward review – fair representation within the Shire. As such, the majority of this report will focus on the four-ward and no ward option.

The four-ward option best fitting the communities of interest would be option 4 (see Appendix 1) as it places the coastal towns of Grey and Wedge with Cervantes. This option also recognises the natural division between the communities of Cervantes and Dandaragan created by the Indian Ocean Drive. The Indian Ocean Drive was not present during the period of the previous four-ward system (option 1), and not incorporated into the possible four-ward option (option 2).

The no-ward system also recognises communities of interest, as the lack of boundaries allows people to make their own decisions on which community they are associated with.

4.2 Physical and topographical features

These may be natural or man-made features that will vary from area to area. Water features such as rivers and catchment boundaries may be relevant considerations. Coastal plain and foothills regions, parks and reserves may be relevant as may other man made features such as railway lines and freeways.

The natural environment and man-made infrastructure are two key aspects defining the topographical or physical features of the Shire of Dandaragan. These were identified in the interview as the main features participants referred to when talking about

communities of interest and/or ward boundaries.

Natural environment

Stretching out from the coast inland, the natural environment of the Shire of Dandaragan has distinct land forms and soil types shaping human settlement patterns and economic activities. This can be broadly categorised as coastal, having the sandy soils of the coastal plain. This is best suited to fishing, ocean leisure and tourism activities, attracting a growing permanent and transient population. The coastal area is a relatively narrow strip after which soils become increasingly fertile. Coupled with the abundance of fresh underground water reserves under the Shire, the land is suitable for a range of agricultural activities – including water intensive ones such as potato farming. Density of human settlement is progressively less moving east from the coast. This region also has other physical defining features, such as mineral sands, other specialised soil environments potentially suitable for land fill activities (inhibits leaching of waste into groundwater) and natural gas.

Man-made infrastructure

The Shire has two highways - both symbolise a change in how residents interact with the environment. First, the Indian Ocean Drive which separates the coast from inland areas, providing a natural division between the different economic activities and residential needs of the two distinct soil and landform types. Its construction and opening in 2010 has increased connectivity with Perth for the coastal communities and the growth of their tourism and leisure industries. It is expected to further develop industry differences between coastal and inland areas, as tourism grows in the coastal towns.

Second, the Brand Highway which separates populations according to their different residential service/shopping area. Interviewees noted that those to the west of the highway travel to Jurien Bay (medical, retail, etc) or Perth, and those to the east travel to Dandaragan (for farming supplies), Moora (medical, retail, etc) or Perth.

Analysis of relevant ward options

Of the four-ward systems proposed¹, only option 4 (see Appendix 1) takes into account all aspects of the natural environment and man-made structures referred to by interview

¹ See page 16: notes the two-ward options are unviable as they do not address concerns of fair representation.

participants. The other four-ward options (1 and 2) place the coast largely in Dandaragan, which neither recognises the different natural environments nor the presence of Indian Ocean Drive (not constructed when the previous ward system, option 1, was in place). Therefore, while the previous four-ward system (option 1) may have worked well (see Creagh submission), it no longer adequately represents the distinct communities of interest which have emerged as a result of Indian Ocean Drive.

4.3 Demographic Trends

Several measurements of the characteristics of human populations, such as population size, and its distribution by age, sex, occupation and location provide important demographic information. Current and projected population characteristics will be relevant as well as similarities and differences between areas within the local government.

The population of the Shire of Dandaragan was 3,468 in 2012, with 1,907 males and 1,561 females. This figure is comprised of Jurien Bay with 1,500 persons (43 per cent), Cervantes with 545 persons (15.7 per cent) and a Shire balance of 1,432 persons (41.3 per cent) in Dandaragan, Badgingarra towns and other rural areas.

The population of the Cervantes and Jurien Bay communities are relatively concentrated on their coastal towns, and contain a high number of retirees and transient workers. Many residents are new-comers attracted to the regional beach lifestyle close to Perth offered by Jurien Bay. In contrast, Dandaragan and Badgingarra town sites are small with residents dispersed throughout the surrounding rural areas. Their demographic profiles are younger and population numbers more stable (albeit slightly declining) with transients associated with seasonal agricultural work.

The Shire of Dandaragan Strategic Community Plan estimates that the Shire will grow to 5,000 persons by 2022, while the Western Australian Planning Commission predicts 4,130 by 2026 (see figures in following section). With land development constraints on Cervantes and the attraction of the well-serviced Jurien Bay, the majority of this growth is projected to occur in Jurien Bay.

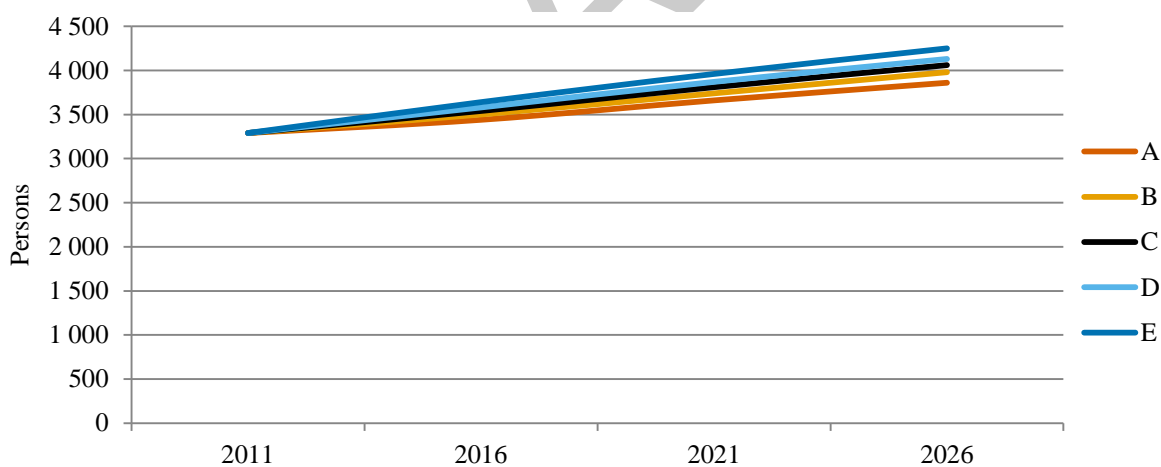
The remainder of this section investigates the demography of the Shire of Dandaragan by looking at its historic and future population profile, major occupations and level of

education compared to Western Australia. It concludes with a brief summary of how this might impact the various ward scenarios

Demographic breakdown

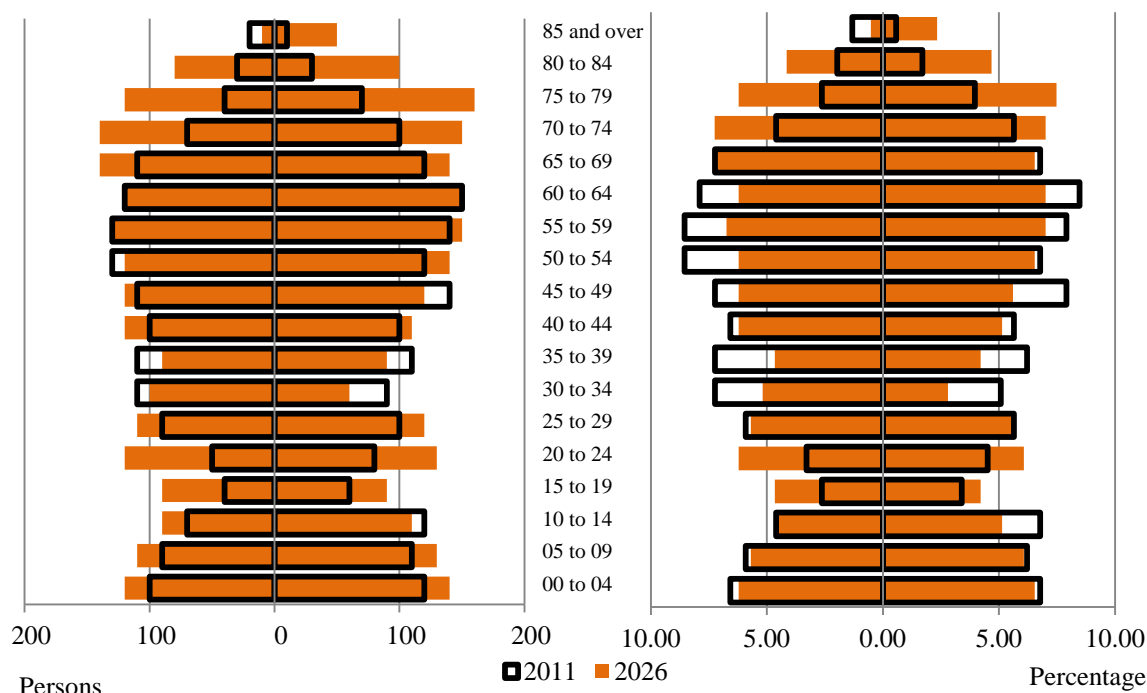
Overall the population of the Shire of Dandaragan has increased between 2001 and 2011 from 3,078 to 3,468 persons (12.7 per cent increase). Population predictions for the Shire based on current fertility, mortality and migration rates to 2026 demonstrate a strong increase as shown in figure 1. The lines B and C are the most likely predicted populations at around 4,130 persons. Figure 2 shows that the majority of this increase will be in elderly populations above 70 years old, with significant declines in the 30 to 64 year old cohorts. The 15 to 24 year olds are expected to increase, placing importance on the Shire to explore modes by which to retain this age group.

Figure 1: Future population projections for Dandaragan, 2011 to 2026



Source: WA Tomorrow Population Report No. 10

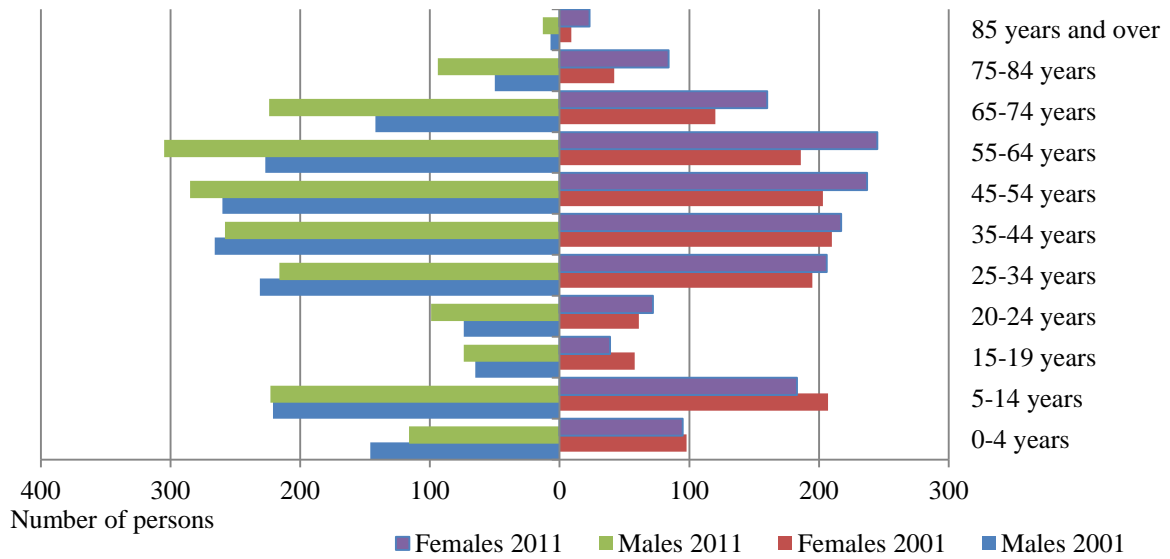
Figure 2: Age -Sex Distribution, 2011 to 2026 - Band C (females to left, males to right)



Source: WA Tomorrow Population Report No. 10. Note: The bars for 2011 and 2026 overlap

There are more males than females, with respective numbers of 1,689 and 1,389 in 2001 rising to 1,907 and 1,561 in 2011. From figure 3, the majority of this increase has been in older populations between the ages of 45 and 85. The more elderly are likely to have settled in Jurien Bay. The numbers of females in these age groups is far greater than the males. In contrast, there has been a decline in females and rise in males in the ages of 25 to 45. This equates to an overall slight decline in these populations of 902 in 2001 to 897 in 2011. This is mirrored by a decline in the number of children aged 0 to 19 (from 795 to 730), indicating the decreasing number of families living in the Shire of Dandaragan.

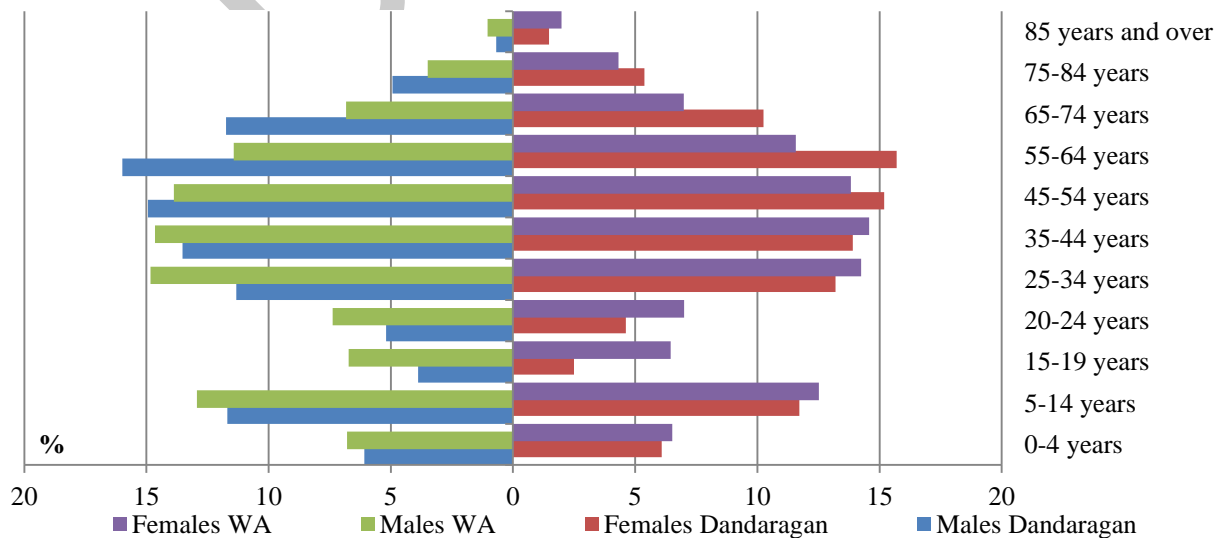
Figure 3: Population change over time, absolute numbers, 2001-2011



Source: adapted from ABS (2011)

Figure 4 compares Shire of Dandaragan to Western Australia, finding a significantly more aged community than the State, having a large proportion of 45 to 84 year olds and significantly less in younger cohorts.

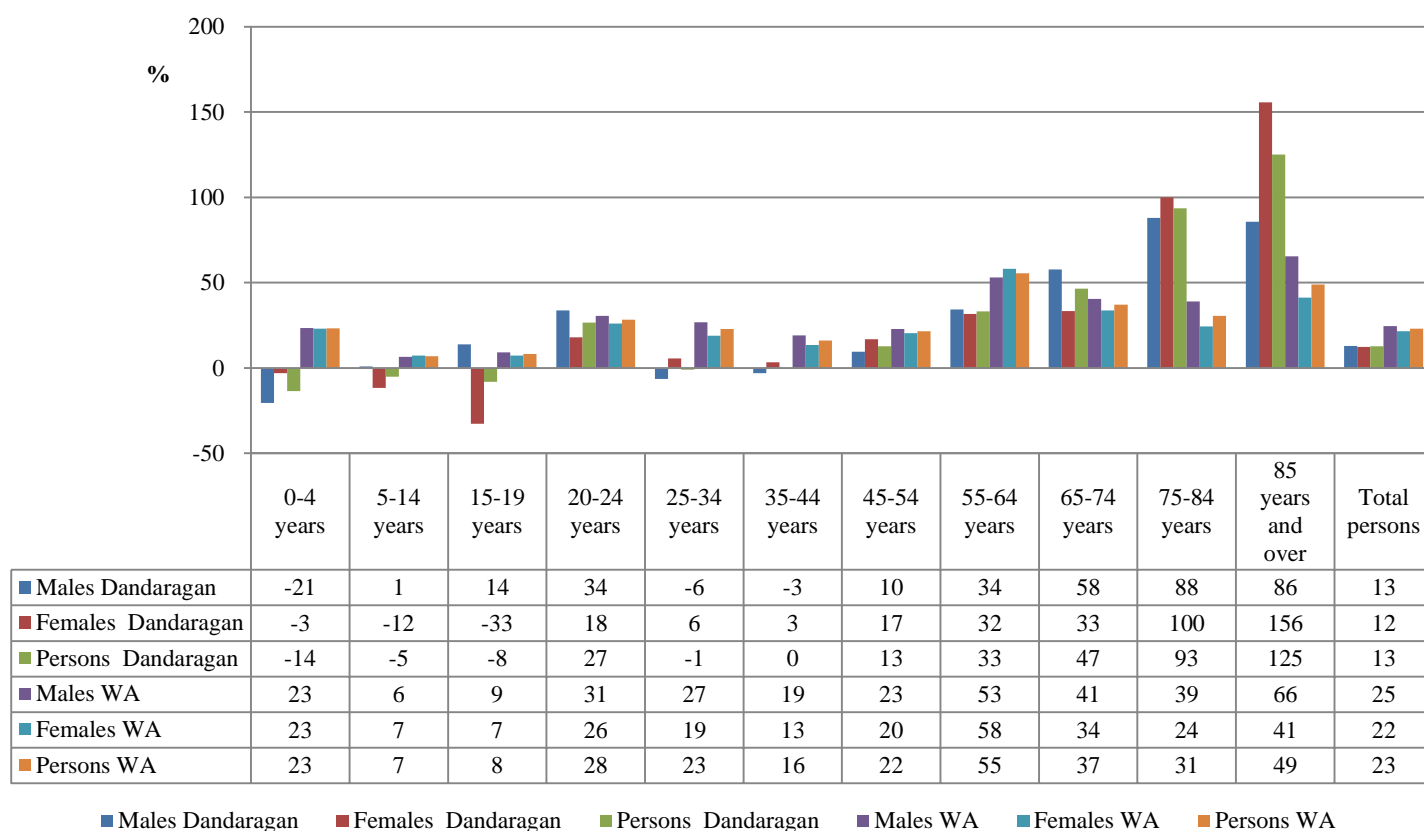
Figure 4: Demographic distribution compared to Western Australia, 2011



Source: adapted from ABS (2011)

Figure 5 compares the percentage change over the 2001 to 2011 period in male, female and total populations of both the Shire of Dandaragan and Western Australia. The largest percentage change has been in the 75 to 84 and 85 and over cohorts, with changes here outstripping any other group indicating a rapidly aging population compared to the State. Whilst all cohorts increased in WA, the Shire of Dandaragan experienced overall declines in youth 0 to 19 years, as well as parent-age cohorts of 25 to 45 year olds. This indicates a loss of families, further exacerbates its aging profile.

Figure 5: Percentage change compared to Western Australia, 2001-2011



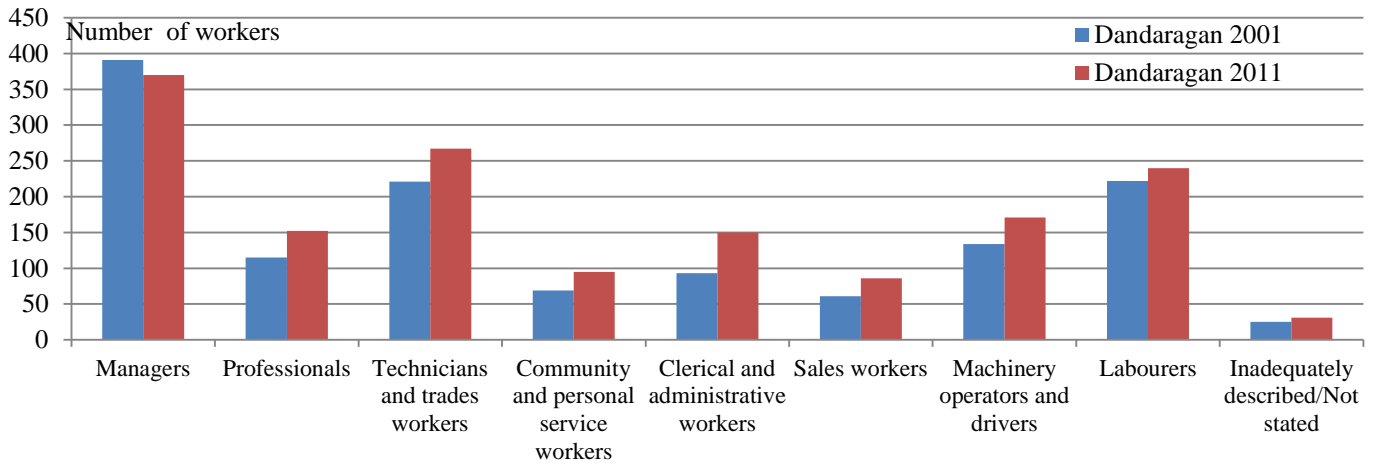
Source: adapted from ABS (2011)

Occupation breakdown

From figure 6, the majority of persons in Dandaragan are employed as managers (including farm managers), technicians and trades workers and labourers across both periods. In general, there has been an increase in the workforce from 1,331 persons in 2001 to 1,562 persons in 2011, with the only occupations in decline being managers. The most significant rises have been in professionals, technicians and trade workers

and clerical and administrative workers.

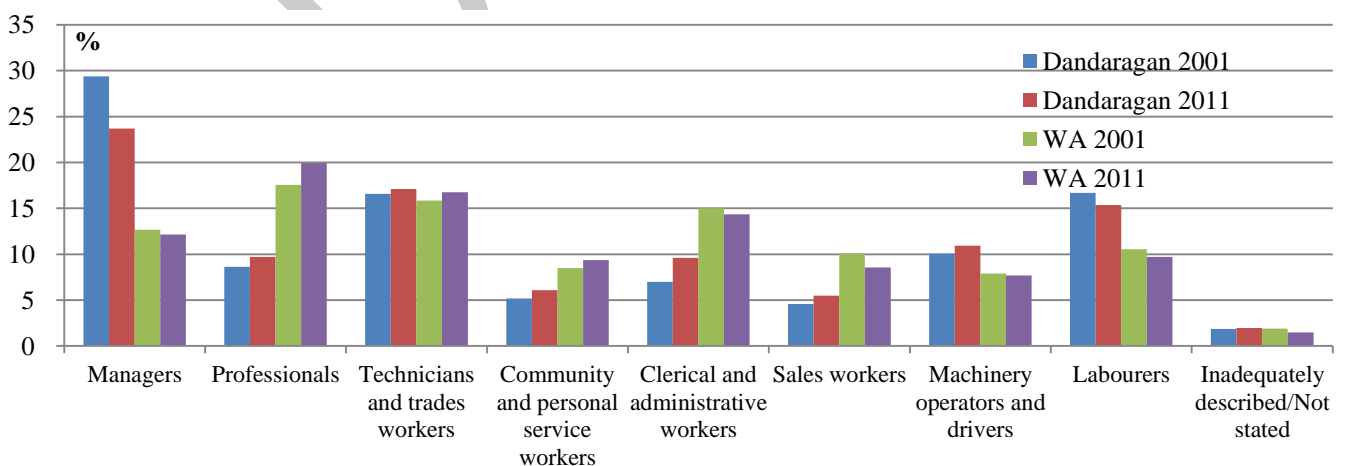
Figure 6: Number in each occupation category, 2001 and 2011



Source: adapted from ABS (2011)

Proportionally, it has a high number of managers compared to the State (see figure 7 and table 3). This is likely associated with farming in the rural areas of Dandaragan and Badgingarra as a result of changes to farming operations and the conversion of farming lands to residential. It experienced the largest jump in clerical and administrative workers, most likely in Jurien Bay. This sector of the workforce along with sales workers saw rises despite declines in the State.

Figure 7: Percent in each occupation category, 2001 and 2011, compared to WA



Source: adapted from ABS (2011)

Table 3: Percentage change compared to Western Australia, 2001-2011

	Dandaragan (% change)	WA (% change)
Managers	-5	28
Professionals	32	51
Technicians and trades workers	21	41
Community and personal service workers	38	47
Clerical and administrative workers	61	27
Sales workers	41	13
Machinery operators and drivers	28	30
Labourers	8	23
Inadequately described/Not stated	24	3
Total	17	33

Source: adapted from ABS (2011)

Education breakdown

Table 4 illustrates education changes between 2001 and 2011 in the Shire of Dandaragan. There was a general rise in all qualification levels. Corresponding percentage changes are found in table 5. The majority of workers had certificate level qualifications rising from 412 persons in 2001 to 580 persons in 2011 (41 per cent increase). This was followed by bachelor level which rose from having less numbers than advanced diploma and diploma level in 2001 (108 and 124 persons respectively) to greater in 2011 (201 and 187 persons respectively; which corresponds to 86 per cent and 51 per cent increases). Higher level degrees rose the most significantly (postgraduate degree (up by 233 per cent), graduate diploma and graduate certificate (up by 82 per cent) between the periods indicating an increase in the overall education of the workforce compared to the State.

Table 4: Number in each education category, 2001 and 2011

2001	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85	total
Postgraduate Degree Level	0	0	0	3	3	0	0	0	0	6
Graduate Diploma and Graduate Certificate Level	0	0	3	8	3	3	0	0	0	17
Bachelor Degree Level	0	6	39	28	15	13	4	3	0	108
Advanced Diploma and Diploma Level Certificate Level	0	3	18	37	29	22	9	6	0	124
Certificate Level	6	22	104	83	87	63	38	9	0	412
Level of education inadequately described	0	0	8	8	13	7	0	0	6	42
Level of education not stated	17	15	39	41	41	52	26	19	6	256
Total	23	46	211	208	191	160	77	37	12	965

2011	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85	total
Postgraduate Degree Level	0	0	7	5	8	0	0	0	0	20
Graduate Diploma and Graduate Certificate Level	0	0	9	6	7	6	3	0	0	31
Bachelor Degree Level	0	15	58	41	38	28	17	4	0	201
Advanced Diploma and Diploma Level Certificate Level	4	4	21	42	40	44	26	6	0	187
Certificate Level	9	44	105	125	101	99	74	20	3	580
Level of education inadequately described	0	3	8	11	11	17	18	7	3	78
Level of education not stated	31	18	41	54	53	62	44	40	8	351
Total	44	84	249	284	258	256	182	77	14	1,448

Source: adapted from ABS (2011)

Table 5: Percentage change by education category compared to Western Australia, 2001-2011

Dandaragan (% change)	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85	total
Postgraduate Degree Level	-	-	-	67	167	-	-	-	-	233
Graduate Diploma and Graduate Certificate Level	-	-	200	-25	133	100	-	-	-	82
Bachelor Degree Level	-	150	49	46	153	115	325	33	-	86
Advanced Diploma and Diploma Level Certificate Level	-	33	17	14	38	100	189	0	-	51
Certificate Level	50	100	1	51	16	57	95	122	-	41
Level of education inadequately described	-	-	0	38	-15	143	-	-	-50	86
Level of education not stated	82	20	5	32	29	19	69	111	33	37
Total	91	83	18	37	35	60	136	108	17	50

WA (% change)	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85	total
Postgraduate Degree Level	20	402	292	120	84	156	213	153	209	151
Graduate Diploma and Graduate Certificate Level	42	42	55	50	49	170	135	102	65	67
Bachelor Degree Level	17	49	72	71	52	130	133	113	122	74
Advanced Diploma and Diploma Level Certificate Level	29	42	59	43	46	100	109	98	130	61
Certificate Level	85	60	38	22	42	75	71	85	159	46
Level of education inadequately described	4	51	45	35	57	146	198	191	282	84
Level of education not stated	7	53	56	33	28	35	-4	-3	21	25
Total	33	54	60	43	46	88	64	43	59	55

Source: adapted from ABS (2011)

Nonetheless, Dandaragan has a lower per cent of university-educated persons and higher percent of vocationally-trained persons than WA (see table 6). Certificate level qualifications being 40 percent of the workforce compared to 34 percent in WA, and university level qualifications being respectively 17 percent and 31 percent of the working populations.

Table 6: Percent in each education category, 2011, compared to WA

<i>Dandaragan (%)</i>	<i>15-19</i>	<i>20-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75-84</i>	<i>85</i>	<i>total</i>
Postgraduate Degree Level	0	0	3	2	3	0	0	0	0	1
Graduate Diploma and Graduate Certificate Level	0	0	4	2	3	2	2	0	0	2
Bachelor Degree Level	0	18	23	14	15	11	9	5	0	14
Advanced Diploma and Diploma Level	9	5	8	15	16	17	14	8	0	13
Certificate Level	20	52	42	44	39	39	41	26	21	40
Level of education inadequately described	0	4	3	4	4	7	10	9	21	5
Level of education not stated	70	21	16	19	21	24	24	52	57	24
Total	100	100	100	100	100	100	100	100	100	100

<i>WA (%)</i>	<i>15-19</i>	<i>20-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65-74</i>	<i>75-84</i>	<i>85</i>	<i>total</i>
Postgraduate Degree Level	0	1	6	6	6	6	4	2	1	5
Graduate Diploma and Graduate Certificate Level	0	1	3	4	4	3	2	1	0	3
Bachelor Degree Level	0	23	31	26	21	19	16	11	8	23
Advanced Diploma and Diploma Level	5	12	12	15	17	17	16	12	8	14
Certificate Level	44	43	32	33	36	35	34	29	20	34
Level of education inadequately described	2	2	2	3	3	5	7	7	7	3
Level of education not stated	49	18	13	13	13	15	22	38	55	17
Total	100	100	100	100	100	100	100	100	100	100

Source: adapted from ABS (2011)

Analysis of relevant ward options

From an all of Shire perspective, the large proportion of retirees compared to the State suggest a large level of volunteerism with Australian studies reporting an increase of more than 50 per cent in volunteer activity planned upon retirement particularly amongst females (National Seniors Australia, 2012). International studies report similar findings that volunteerism rates increase in retiree populations (Choi, 2003; Erlinghagen and Hank, 2006). Given that the majority of the retirees (and females) live in the coastal communities, there are likely to be significantly more persons capable of putting their hand up to represent communities living along the coast. Other factors which have been found to significantly increase volunteering are having part-time work, with time

constraints on fulltime workers who may also have other duties (i.e., children) not conducive to volunteering, and those in professional, managerial, clerical, sales and service work were more likely to volunteer than those in manual labour positions (Choi, 2033). Higher education is also associated with more volunteerism (Erlinghagen and Hank, 2006).

Therefore communities high in residents with these demographic attributes will find it easier to get representation than those that don't. Jurien Bay is likely to have these attributes, given its lifestyle appeal and employment role as a regional centre. This suggests a structural bias in demographics of the communities where the communities of Badgingarra and Dandaragan may find it harder to find persons willing to give up time to represent their communities on the Council.

From a demographic viewpoint then, the four-ward options will provide the best opportunity to ensure fair representation to overcome this structural demographic bias towards Jurien Bay.

[4.4 Economic factors](#)

Economic factors can be broadly interpreted to include any factor that reflects the character of economic activities and resources in the area. This may include the industries that occur in a local government area (or the release of land for these) and the distribution of community assets and infrastructure such as road networks.

The Shire of Dandaragan was first established in 1890 around the township of Dandaragan, as a small Wheatbelt farming community. The towns of Badgingarra, Cervantes and Jurien Bay emerged later, with the wealth generated from the agricultural lands used to develop the coastal communities. It sits on a major underground water supply, and therefore does not have the water scarcity issues of many other LGAs in Western Australia.

Economically, the Shire can be characterised by two very different industries associated with its two distinct topographical landforms of the coastal plain and fertile rural lands. The coastal plain supports recreational, tourism, fishing, public administration and utilities, social and other services, retail and commercial activities. To enhance Jurien bay's capacity as a regional centre, the Shire may choose to financially assist certain businesses to retain services (such as the doctor's surgery) or to expand industry (such

as the tourism industry with the use of the Shire airfield). Interview participants felt this lack of competition in services within Jurien Bay allowed business and business groups to have undue influence over council decisions. This led interviewees to express a need to attract additional business.

The rural land has a range of agricultural-related activities such as broad-acre farming, grain, citrus, stone fruit, olives, grapes, fig, potato, wildflowers, horticulture, livestock (e.g., feedlots), abattoir and grain, as well as other activities such as renewable energy (wind, solar), mining of mineral sands, landfill, and gas exploration/production. There is significant potential for the rural areas to develop research links to advance productivity in these industries, as well as build connections to address global food security concerns and take advantage of an increasing number of free trade agreements, particularly with nations in the Asia Pacific region.

Both coastal and rural areas are associated with transient populations which impact their economic viability. Tourism is typified by large numbers of tourists and holiday makers in the summer or long vacations and agriculture by a transient seasonal workforce. The composition of the permanent populations is also very different. The coast attracts a large number of retirees, many of whom have arrived relatively recently, while the rural land is home to more well-established farming families, some whose land has been in the family for generations.

Differences between the industry, labourforce and population characteristics between the coast and rural lands raise distinctive urban and economic development concerns and considerations to generate employment and economic growth. This relates directly to the development and management of infrastructure assets. Whilst community assets are equal throughout the Shire, other assets are distributed differently. Road assets are found in greater length and volume in the rural areas, with roads in coastal areas concentrated within the town sites. The roads budget is around \$1 million on maintenance with 75 per cent spent in rural. The management of road assets in rural areas is a vital for the transportation and logistics of agriculture and other industry products, as well as to the services facilitating healthy functioning communities such as the school bus, ambulance, sporting and social activities. In contrast, parks and reserve assets are proportionally more in along the coast than rural areas. All assets add to the economic value of the region as a whole.

The Shire's vast land areas are also assets for the development of commercial, industry

and residential areas. Interviewees felt housing development outside of Jurien Bay was critical for Shire regional development, as this would create economic benefits to surrounding areas from the funding investments in Jurien Bay as a SuperTown. However, many felt capital tended to stay within Jurien Bay with little spillover as there was very limited linkage between it and the hinterlands.

The remainder of this section unpacks the economic factors of the Shire of Dandaragan by examining changes over the most recent census' 2001 and 2011. This includes an examination of industry of employment nominal and percentage changes, as well as the industrial structure of the area through location quotients and shift share analysis.

Overview of economy

During both census periods, whilst agriculture, forestry and fishing was the major employer, it was also the industry of greatest decline falling by 12.7 per cent (see table 7). The impact of this was more likely felt in the farming communities of Dandaragan and Badgingarra. The industries of greatest increase were electricity, gas, water and waste services (up by 170 per cent) and manufacturing (up by 116.1 per cent). This was followed closely by the industries of construction (86.3 per cent), professional, scientific and technical services (up 85 per cent) and public administration and safety (75.9 per cent). Most of which are likely to be found in the communities of Jurien Bay and to some extent Cervantes. The rise in employment within these industries is likely related to the construction of Emu Downs Wind Farm (short term construction crew), the increased employment of persons after the relocation of Shire Offices to Jurien Bay, as well as the greater number of persons employed by the Department of Parks and Wildlife with the establishment of the Marine Park and relocation of their regional office to Jurien Bay. The housing boom of 2004 to 2007 would have also contributed to the strong building and construction industry. However, it must be noted that whilst the percentages are large, absolute numbers are not.

Industries associated with tourism in these communities demonstrated only moderate increases – retail trade (up by 12.9 per cent), accommodation and food services (up by 11.4 per cent). Of more significance were increases in various service industries most likely due to population growth in Jurien Bay. Overall employment in the Shire rose by 235 workers or 17.7 per cent, with female workers demonstrating the highest growth.

Table 7: Dandaragan industry of employment absolute number and percent change, 2001 and 2011

	2001 Census			2011 Census			Percentage change 2001 to 2011		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
Agriculture, forestry and fishing	316	141	457	280	119	399	-11.39	-15.60	-12.69
Mining	107	16	123	76	5	81	-28.97	-68.75	-34.15
Manufacturing	40	16	56	93	28	121	132.50	75.00	116.07
Electricity, gas, water and waste services	10	0	10	24	3	27	140.00	100.00	170.00
Construction	87	8	95	150	27	177	72.41	237.50	86.32
Wholesale trade	18	9	27	22	9	31	22.22	0.00	14.81
Retail trade	39	62	101	39	75	114	0.00	20.97	12.87
Accommodation and food services	33	72	105	34	83	117	3.03	15.28	11.43
Transport, postal and warehousing	23	17	40	33	15	48	43.48	-11.76	20.00
Information media and telecommunications	0	3	3	3	0	3	100.00	-100.00	0.00
Financial and insurance services	4	8	12	3	13	16	-25.00	62.50	33.33
Rental, hiring and real estate services	7	8	15	4	14	18	-42.86	75.00	20.00
Professional, scientific and technical services	8	12	20	15	22	37	87.50	83.33	85.00
Administrative and support services	13	10	23	13	15	28	0.00	50.00	21.74
Public administration and safety	41	13	54	57	38	95	39.02	192.31	75.93
Education and training	20	66	86	16	90	106	-20.00	36.36	23.26
Health care and social assistance	6	34	40	6	50	56	0.00	47.06	40.00
Arts and recreation services	5	6	11	10	4	14	100.00	-33.33	27.27
Other services	14	11	25	26	16	42	85.71	45.45	68.00
Inadequately described/Not stated	17	9	26	21	13	34	23.53	44.44	30.77
Total	808	521	1,329	925	639	1,564	14.48	22.65	17.68

Source: adapted from ABS (2011)

Table 8 highlights the ratio of men to women in each industry of employment, as well as the percent of persons in each industry as a proportion of all employment in the region. 26 per cent of the workers were employed in agriculture, forestry and fishing, followed by construction (11 per cent) and then manufacturing (8 per cent). While men dominated these industries, women were proportionally more in the service industries of retail trade, accommodation and food services, financial and insurance services, rental hiring and real estate services, education and training, and health care and social services. Industries where men and women were more equal (with 10 per cent to 20 per cent gap) were professional, scientific and technical services, administrative and support services, and public administration and safety. Overall, there were more men than women workers (59 per cent to 41 per cent).

Table 8: Dandaragan industry of employment ratio of males to females, percent of total persons, 2011

	ratio of men to women		% of total persons in industry
Agriculture, forestry and fishing	70:	30	26
Mining	94:	6	5
Manufacturing	77:	23	8
Electricity, gas, water and waste services	89:	11	2
Construction	85:	15	11
Wholesale trade	71:	29	2
Retail trade	34:	66	7
Accommodation and food services	29:	71	7
Transport, postal and warehousing	69:	31	3
Information media and telecommunications	100:	0	0
Financial and insurance services	19:	81	1
Rental, hiring and real estate services	22:	78	1
Professional, scientific and technical services	41:	59	2
Administrative and support services	46:	54	2
Public administration and safety	60:	40	6
Education and training	15:	85	7
Health care and social assistance	11:	89	4
Arts and recreation services	71:	29	1
Other services	62:	38	3
Inadequately described/Not stated	62:	38	2
Total	59:	41	100

Source: adapted from ABS (2011)

Industry structure

Table 9 details location quotients (LQ) for the Shire using Western Australia as a base. Industries equal to one are no more or less concentrated than what is found in the State. Industries greater than one demonstrate a particular specialisation in or concentration within the Shire as a net exporter of that industry to the rest of the State. Industries under one are under-represented within the Shire, and therefore are likely to be sourced from elsewhere if needs are not met. From this, it is evident that agriculture, forestry and fishing is the key industry for the Shire, with all other industries being either only slightly above that found in the rest of the State (electricity, gas, water and waste services with LQ of 1.5, and tourism-associated accommodation and food services with LQ of 1.3).

Table 9: Industry of employment location quotients, with Western Australia as base

Agriculture, forestry and fishing	10.6	Financial and insurance services	0.4
Mining	0.8	Rental, hiring and real estate services	0.7
Manufacturing	0.9	Professional, scientific and technical services	0.3
Electricity, gas, water and waste services	1.5	Administrative and support services	0.6
Construction	1.1	Public administration and safety	1.0
Wholesale trade	0.6	Education and training	0.8
Retail trade	0.7	Health care and social assistance	0.3
Accommodation and food services	1.3	Arts and recreation services	0.7
Transport, postal and warehousing	0.7	Other services	0.7
Information media and telecommunications	0.2	Inadequately described/Not stated	1.0

Source: adapted from ABS (2011)

Table 10 disaggregates industry of employment data by drivers of change at the national, industry mix and regional levels for the ten-year period 2001-2011. From a national point of view, all industries grew by 21.2 per cent. If the region had grown at the same rate as the nation, employment would have risen by a total of 282 persons. Looking at local growth from the particular industry mix found in Dandaragan, we find a decline in the number of workers (loss of 39 persons or 3 per cent of the workforce), where the majority of the decline is found in the agriculture, forestry and fishing industry (decrease of 209 persons or 46 per cent). This is counterbalanced by significant increases in mining (up by 140 persons or 114 per cent), construction (up by 30 persons), public administration and safety (up by 21 per cent), and health care and social services (up by 10 persons) over the period.

The local growth attributable to the particular dynamics of the region presents the most interesting profile of the region with an overall decline of 8 jobs (-0.6 per cent). The majority of this growth was found in manufacturing, and electricity, gas, water and waste services, with the largest fall being in mining (loss of 208 persons). Surprisingly, industries associated with tourism and many of the service industries declined from the factors specific to the local economy. Local strengths were found in industries associated with professionals, administration and warehousing. Therefore, the overall increase in 235 workers (17.7 per cent rise in employment) was primarily due to Australia's economic growth rather than industry mix or regional dynamics. This indicates an under-development of the region in terms of economic development, given

that health of the regional economy is largely dependent on the national economy with other factors contributing only minimally.

Figure 8 demonstrates the potential for growth of each industry based on their 2001-2011 rate of growth and 2011 concentration, with industries with the greatest regional shift (growth from local factors) and location quotients (concentration of industry relative to Western Australia) being the highest. From this, it is evident that manufacturing, and electricity, gas, water and waste services have the greatest potential for continued growth. Those industries clustered around the location quotient of one mark with minimal negative or positive growth are stagnant (neither have growth nor critical mass), for example, accommodation, transport, arts, rental (etc).

Analysis of relevant ward options

The key industry in Dandaragan is agriculture, fishing and forestry. This supported the views of interviewees from Dandaragan and Badgingarra communities regarding the importance of their communities to the wealth of the region. Nonetheless, analysis also shows that this is a declining industry. However, given the rising global importance of food security and free trade agreements, it will likely continue to be a key area for economic development of the Shire of Dandaragan. Secondly, whilst findings demonstrate stagnation in tourism industry related sectors; this may have changed with the 2010 opening of Indian Ocean Drive.

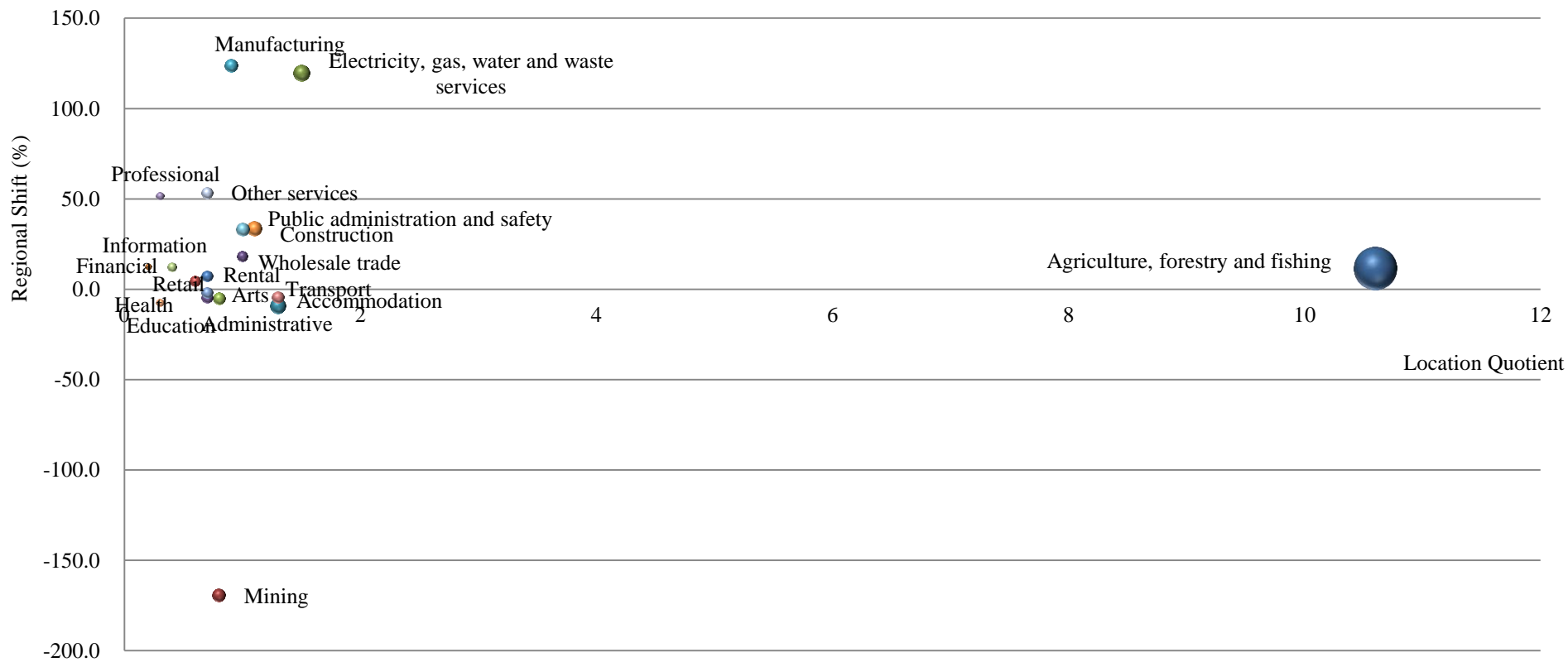
Regarding the five scenarios, the two two-ward scenarios do not divide the wards according to economic profiles and therefore are not relevant for consideration in economic terms. Whilst divisions of all (three) four-ward options do allow some alignment with economic differences between the coast and rural sectors of the Shire, only Option 4 makes the most sense given that it follows Indian Ocean Drive which appears to have become a major delineator of economic activities across the Shire.

Table 10: Shift share analysis 2001-2011 outlying drivers of change associated with national growth, industry mix or regional dynamics

	<i>National Share</i>		<i>Industry Mix</i>		<i>Regional Shift</i>		<i>Total</i>	
	Absolute	Percentage	Absolute	Percentage	Absolute	Percentage	Absolute	Percentage
Agriculture, forestry and fishing	96.9	21.2	-208.7	-45.7	53.8	11.8	-58.0	-0.1
Mining	26.1	21.2	139.8	113.7	-207.9	-169.0	-42.0	-0.3
Manufacturing	11.9	21.2	-16.3	-29.2	69.5	124.0	65.0	1.2
Electricity, gas, water and waste services	2.1	21.2	2.9	28.9	12.0	119.9	17.0	1.7
Construction	20.1	21.2	29.8	31.4	32.0	33.7	82.0	0.9
Wholesale trade	5.7	21.2	-6.6	-24.6	4.9	18.2	4.0	0.1
Retail trade	21.4	21.2	-6.7	-6.6	-1.8	-1.7	13.0	0.1
Accommodation and food services	22.3	21.2	-1.0	-0.9	-9.3	-8.9	12.0	0.1
Transport, postal and warehousing	8.5	21.2	1.3	3.2	-1.8	-4.4	8.0	0.2
Information media and telecommunications	0.6	21.2	-1.0	-34.0	0.4	12.8	0.0	0.0
Financial and insurance services	2.5	21.2	0.0	-0.4	1.5	12.5	4.0	0.3
Rental, hiring and real estate services	3.2	21.2	-1.3	-8.6	1.1	7.4	3.0	0.2
Professional, scientific and technical services	4.2	21.2	2.4	11.9	10.4	51.9	17.0	0.9
Administrative and support services	4.9	21.2	-0.9	-4.1	1.1	4.7	5.0	0.2
Public administration and safety	11.5	21.2	11.6	21.4	18.0	33.3	41.0	0.8
Education and training	18.2	21.2	6.1	7.1	-4.3	-5.0	20.0	0.2
Health care and social assistance	8.5	21.2	10.4	26.0	-2.9	-7.2	16.0	0.4
Arts and recreation services	2.3	21.2	1.2	10.6	-0.5	-4.5	3.0	0.3
Other services	5.3	21.2	-1.7	-6.8	13.4	53.6	17.0	0.7
Inadequately described/Not stated	5.5	21.2	0.1	0.3	2.4	9.3	8.0	0.3
Total	281.8	21.2	-38.9	-2.9	-7.9	-0.6	235	17.7

Source: adapted from ABS (2011)

Figure 8: Regional percent shift against location quotients²; size of points indicates size of regional shift and location quotient values



Source: adapted from ABS (2011)

² NB: only first word of industry of employment used where data points are densely located.

4.5 Ratio of councillors to electors in wards

It is expected that each local government will have similar ratios of electors to councillors across the wards of its district.

Historic representation across the shire is difficult to assess with no wards system. However, prior to 2009 there was a slight imbalance with the South Ward having more representation than the North (see table 11). A balanced representation is found in both 2004 and 2007 (within plus or minus ten per cent).

Table 11: History of ward changes and councillor to elector ratio

Year	Ward	Councillors	Electors	Ratio	Ratio Deviation (%)
2004	North Ward	5	1281	1 : 256	-3.64
	South Ward	4	953	1 : 238	3.64
2007	North Ward	5	1338	1 : 267	-7.88
	South Ward	4	914	1 : 228	7.88
2009	No Wards	9	2288	1 : 254	
2011	No Wards	9	2365	1 : 262	
2013	No Wards	9	2491	1 : 276	
2015	No Wards	9			

Notes:

- *Jurien and Badgingarra Wards amalgamated to create North Ward*
- *Cervantes and Dandaragan Wards amalgamated to create South Ward.*

Following the two year period of no representation in Badgingarra, and subsequent consideration by council to seek approval by the Department of Local Government and Communities to return to a ward system, there were 41 submissions from the public. Table 12 summarises the various ward systems favoured within these submissions received by the Council.

Table 12: Number of submissions received and ward system favoured.

	No. in favour
4-ward in general	25
2-ward in general	
0-ward	1
Possible 4-ward	
Previous 2-ward	1
Previous 4-ward	6
Cr Sheppards 4-ward	1
Cr Short 2-ward	1
Unclear whether 2 or 4 ward	6
Total	41

Table 13 shows current representation across the whole Shire after the October 2015 election. Whilst it does not conform to the DLGC rule of plus or minus ten per cent elector-to-councillor ratio, the boundaries used to calculate these boundaries are arbitrary and in reality electors can vote for any candidate across the whole Shire. In addition, candidates can run in any community given they represent the Shire as a whole not just their wards.

Table 13: Councillor to elector ratio in no ward system

Ward	No. electors	No. councillors	Councillor elector ratio	% Ratio deviation
Jurien Bay	1203	6	1:200	+46.24
Cervantes	450	1	1:450	-20.97
Dandaragan	565	1	1:565	-51.88
Badgingarra	273	1	1:273	+26.61

Table 14 shows the no ward system until Council elections in October 2015. The ratio of electors to councillors in the three areas of Jurien Bay, Cervantes and Dandaragan does not conform to DLGC guidelines of plus or minus ten per cent. In addition, the Badgingarra community is not represented by any councillors. The lack of representation for Badgingarra generated feelings of under-representation across the

Shire, and calls for a review of ward boundaries to ensure fair representation. There is also an under representation in Cervantes and over Jurien Bay. Table 15 highlights the correct ratio of electors to councillors to ensure fair representation in each of the wards.

Table 14: Elector to councillor ratio in no ward system until October 2015

Ward	No. electors	No. councillors	Councillor elector ratio	% Ratio deviation
Jurien Bay	1203	6	1:200	-27.79
Cervantes	450	1	1:450	+62.45
Dandaragan	565	2	1:565	+1.80
Badgingarra	273	0	-	-

Table 15: Correct ratio according to elector to councillor plus or minus ten per cent rule

Ward	No. electors	No. councillors
Jurien Bay	1203	4.35
Cervantes	450	1.62
Dandaragan	565	2.03
Badgingarra	273	0.98

Table 16 shows the previous four ward system used until 2005. This is structured around historic communities of interest which worked at the time. However, it does not take into account the Indian Ocean Drive, whose construction resulted in a perceived barrier between the coast and rural areas. Using these boundaries, Cervantes is over-represented in elector to councillor ratio, falling too far out of the plus or minus ten per cent elector to councillor ratio. It is not likely to be approved by the DLGC.

Table 16: Option 1 - previous four ward system

Ward	No. electors	No. councillors	Councillor elector ratio	% Ratio deviation
Jurien Bay	1203	4	1:301	+8.57
Cervantes	450	2	1:225	-18.75
Dandaragan	565	2	1:282	+1.98
Badgingarra	273	1	1:273	-1.45

Table 17 gives a four-ward system based on the previous ward system with boundaries redrawn to ensure the ratio of electors to councillors sits within the plus or minus ten per cent rule. However, it suffers the same issue as Option 1 in that it does not take into account the impact Indian Ocean Drive has had on defining communities of interest boundaries.

Table 17: Option 2 - Possible four ward system

Ward	No. electors	No. councillors	Councillor elector ratio	% Ratio deviation
Jurien Bay	1203	4	1:301	+8.57
Cervantes	496	2	1:248	-10.47
Dandaragan	545	2	1:272	+1.63
Badgingarra	247	1	1:247	-10.84

Table 18 give option 3, being the previous two ward system used from 2005 to 2009. The ratio of electors in the North and South Wards is within the plus or minus ten per cent rule. However, in placing Badgingarra in the North Ward with Jurien Bay, it makes it even more difficult than the current no ward system to secure representation. In addition, the North / South divide does not align with any communities of interest as defined by interviewees (and discussed in the communities of interest section). Interviewees suggested that an East / West divide would better meet communities of interest criteria, however, such a suggestion would not satisfy the plus or minus ten per cent councillor to electors rule.

Table 18: Option 3 - Previous two ward system

Ward	No. electors	No. councillors	Councillor elector ratio	% Ratio deviation
North	1476	5	1:295	+6.57
South	1015	4	1:254	-8.40

Table 19 outlines the option 4 proposed four-ward system. This system takes into account the community of interest created by the construction of Indian Ocean Drive along the coast. Both Grey and Wedge are included in Cervantes. However, whilst they

are all coastal communities, they have little similarity with Cervantes and even less with Dandaragan. Most of the land being transferred has almost no residents, being natural reserve, national park or relatively undeveloped freehold land with few dwellings. However, Dandaragan is under represented in the ratio of electors to councillors, and therefore not likely to be approved by the DLGC.

Table 19: Option 4 - Suggested four ward system

Ward	No. electors	No. councillors	Councillor elector ratio	% Ratio deviation
Jurien Bay	1203	4	1:301	+8.57
Cervantes	598	2	1:299	+7.94
Dandaragan	417	2	1:208	-24.73
Badgingarra	273	1	1:273	-1.45

Table 20 presents Option 5. Similar to Option 3, in that it does not represent the communities of interest well and presents Badgingarra with same issues regarding representation. Ratio of electors to councillors fits the plus or minus ten per cent rule. Key difference is the inclusion of entire Nambung postcode (6521) in Cervantes. Most interviewee respondents thought this did not allocate electors well to their communities of interest, given that the land transferred to Cervantes in this two-ward system is primarily farming.

Table 20: Option 5 - Cr Short suggested two ward system

Ward	No. electors	No. councillors	Councillor elector ratio	% Ratio deviation
North	1456	5	1:291	+5.12
South	1035	4	1:259	-6.59

Analysis of relevant ward options

Upon contacting the Department of Local Government and Communities, the researcher received advice that when there are new ward boundaries under consideration, and particularly in the case of moving from no wards to wards, there was a strong preference by the Local Government Advisory Board that the new wards align with the criteria of plus or minus ten per cent elector to councillor ratio. Therefore, whilst there is no official weighting of importance against any of the five factors for consideration, it must be noted that a significantly strong argument must be made if this factor is to be discounted

in favour of more heavily another factor (such as communities of interest).

From the above, the only option which satisfies the plus or minus ten per cent elector to councillor ratio is Option 2.

5. Concluding Comments and Recommendations

This report was commissioned to investigate the issue of ward boundary changes for the purposes of fair representation across the four distinct communities of Badgingarra, Cervantes, Dandaragan and Jurien Bay. Its analysis was guided by the Local Government Act of 1995 which specifies five factors for consideration when engaging in ward boundary reviews. In addition, in consultation with the Department of Local Government and Communities, the researcher was advised there was a strong preference by the Local Government Advisory Board that: 1) the new wards align with the criteria of plus or minus ten per cent elector to councillor ratio; and, 2) there must be a very strong case put forward by Councils wishing to move from a no ward to a four-ward system.

The first part of the report focused on representation across the four communities, looking at historic and current representation, how councillors represent their communities and voting patterns. Since 1971, the Shire has moved through a series of ward adjustments from a four-ward to a two-ward and finally the current no ward system. These boundary changes were made in response to State Government legislation in 1995 placing emphasis on the plus or minus ten per cent elector to councillor ratio criteria. In this history, there has been Council representation across all four communities except for the one election cycle of 2013-2015 where there was no Councillor from Badgingarra. From the interviews, there appeared to be misinformation or understanding regarding State government directives and other drivers associated with increasing amalgamation making it difficult to simply revert back to a ward system. For example, part of the rationale driving the process of moving to progressively larger wards is associated with global forces impacting the economic and social structure and settlement patterns of all regional LGAs, not just Dandaragan. These problems have not gone away, but have and will continue to persist and be compounded.

From the interview findings, representation across all four communities is a key aspect in maintaining regional stability and trust in the community representation process. This is in part due to the perceived disconnect between rural and coastal communities. This

disconnect is contextualised by a perception of rivalry and competition between all communities and the value in preserving the diversity of Shire voices in the decision-making process. While in theory councillors are elected to represent the whole of the Shire irrespective of their place of residence, interview findings highlighted a slight bias in all Councillors and community members towards their own communities. In addition, it was discovered that the councillors from the smaller communities were putting in far more hours than those from Jurien Bay. Given the distances involved in the Shire and the tight-knit characteristics of these populations, the report finds that it would highly unlikely that Jurien Bay Councillors could represent these areas as effectively as local community members and that representation across all communities is therefore necessary.

The report also highlighted several structural biases within the Shire advantaging different communities over others. Firstly, the postal voting system which was introduced to make the voting process easier and increase civic participation, but induced proportionally more Jurien Bay voters than those from other communities. This was primarily because voters in the smaller communities tended to be more passionate and supportive of politics in their communities than in Jurien Bay, so would vote irrespective of in-person or postal vote. In contrast, Jurien Bay voters tended to be more apathetic and knew less of candidates running and were encouraged to participate in a system where they did not need to go to the polling booth. Therefore, any overall increase in voter participation was likely to largely be voters from the Jurien Bay community, where a tendency to vote for 'Jurien Bay' rather than knowledge of actual candidates made it more difficult for candidates from smaller communities to get elected.

The second structural bias lies in the demographic characteristic of the communities, where the larger proportion of coastal residents are retirees and those of the rural communities are farmers with little time to dedicate to councillor volunteer duties. The third bias lies in the sheer difference in voter numbers found in Jurien Bay compared to the other low populous communities, which meant larger number of businesses and a stronger political power base. Finally, the fourth bias lies in the passion and community support found in the small towns which can be more readily harnessed to stand behind candidates from their communities than that experienced by Jurien Bay. This report looked to understanding these biases, seeking ways in which to harness them to redress the election barriers of candidates from the smaller communities.

In an examination of representation across the Shire since the introduction of the two-ward and then the no-ward system, it was found that other than the one-electoral cycle (2013-2015) there has been fair or over-representation amongst all wards. This includes the

most recent election where there are councillors from all three smaller wards. From the interviews, two reasons emerged for why candidates from smaller wards might have a higher chance of being elected than those in Jurien Bay. Firstly, it was due to the strength of the smaller communities to get behind their candidates, and secondly, the quality of the candidates and their ability to be able to successfully promote themselves to attract the voters of other communities (including those in Jurien Bay). The one-electoral cycle then provides only scant evidence upon which to argue to the Local Government Advisory Board for the need to change to a ward system of guaranteed representation.

Nonetheless, there was general consensus in all three small communities regarding their lack of representation in Council, and that their needs were not being met in favour of development in Jurien Bay. It was difficult to assess the validity of these claims with each interviewee presenting part of the Shire story from their own perspective. Statistical evidence of council decisions demonstrated almost no dissent, indicating overall agreement within the Chamber on the decisions made and therefore some level of fairness. In addition, whilst councillors and community members in the smaller communities reported feeling that Jurien Bay councillors did not represent the region, Jurien Bay councillors argued that they did work for the benefit of the wider Shire. Proving to the Local Government Advisory Board that the Shire currently is administered unfairly would require a more comprehensive analysis of rate payer base, maintenance and regional development activities, including understandings of broader regional spin-offs from any single project.

As mentioned in the introduction, these feelings of unfairness may have emerged from a variety of factors, the majority of which could be addressed through better Shire communication or increased engagement with available information by the community. These feelings may also be associated with embedded conflicts within the Shire relating to move of the Council Chamber and Shire administration from Dandaragan to Jurien Bay town sites.

The second part of this report conducted an analysis of the Shire of Dandaragan based on the five factors needed to conduct a ward boundary review. A summary of this is found in table 21. Both two-ward options present an even worse representation scenario for Badgingarra than the present no wards system. The option best fitting the five criteria is option 4, however, it fails the elector to councillor to ratio factor which receives the greatest weighting from the DLGC. As such, this option will not be accepted by the Local Government Advisory Board without a strong rationale for why the plus or minus ten per cent elector to councillor factor should be ignored. Only option 2 aligns with the heavily weighted this factor, and therefore has the highest probability of being accepted.

Table 21: Summary of best options adhering to ward boundary review factor criteria

	Option 1 Previous 4 ward	Option 2 Possible 4 ward	Option 3 Previous 2 ward	Option 4 Alternative 4 ward	Option 5 Alternative 2 ward
Communities of Interest				X	
Physical and topographical features				X	
Demographic trends	X	X		X	
Economic factors				X	
Elector to Councillor ratio		X			

However, option 2 is the less preferred from a community of interest perspective as it does not align any of the noted the communities of interest which the report found was the core issue regarding representation. This option also only presents a short-term solution to representation, given that it would need to engage with ward boundary reviews every four years to comply with the Local Government Act of 1995. The exponential growth of Jurien Bay compared to the other communities means ward boundaries would be need to be drawn increasingly closer to its urban core. As such, these boundaries would have very little to do with communities of interest and more to do with 'balancing the books' to appease the State government.

Furthermore, putting forward the introduction of a ward system (irrespective of which one) to the State Government Advisory Board will require a more solid quantitative evidence base (e.g., distribution of rate payers, funds, projects, etc.) on how there has been unfair representation across the Shire given that the interviews only provide anecdotal evidence of unfair representation and support of specific community ward preferences. That is, interviews demonstrate the need for local voices to be heard adequately, but not whether Councillors acted in the interests of the whole Shire or are unaware of the broad needs of each community.

Recommendation

Given the evidence presented at the interviews, through analysis of voting patterns, examination of the five factors, consultation with DLGC and understanding of global drivers of amalgamation, the report findings lead to the strong recommendation to continue with the no wards system. This is based on the following rationale:

1. The fact that regional areas will continue to experience a disproportionate increase in the population of certain coastal towns over anywhere else, this is driven by processes outside of local, state and even national government control and influence.
2. Increasing pressures of local government amalgamation and consolidation by the State government to increase competitiveness and efficiency.
3. Consultation with DLGC where it was advised that the plus or minus ten percent is a strong preference of the board, and that there must be a strong motivating argument put forward to move from a no wards to a wards system.
4. The importance of quality candidates for the smaller communities, given that someone who is not prepared to put in the effort to get elected may very well not be giving the communities the best representation they deserve.
5. The never-ending boundary shifting game the council will be engaged with to accommodate the growth of Jurien Bay compared to the other communities if wards are introduced.

This recommendation is also based on the key finding during the interview process that the critical issue motivating this review was the lack of representation not the lack of boundaries. While the absence of one community representative in one-electoral cycle (Badgingarra) is not sufficient to claim a trend, it has highlighted the importance of representation for all four communities and that some of the structural bias towards Jurien Bay (in sheer and proportional voter numbers, as well as demographics) needs to be addressed. The following provides some initial suggestions for how this might be achieved:

- a. That postal voting be abolished and in-person voting be re-instated as the only option. This will decrease the number of voters, which are likely to be largely those living in Jurien Bay with little interest in local politics or knowledge of running candidates.
- b. That Council formally acknowledge the importance of representation of all four wards and seek means to provide proper representation for any ward without representation in the future. While this may be through the allocation of a specific Councillor to act in the interests of the community, it must also be

recognised that councillors from other communities do not provide the same level of representation as that of a local Councillor given distances across and diversity of interests (community groups and others) within the Shire.

- c. Give genuine opportunities for candidates from smaller communities to present to a voter base outside of their own areas, for example in Jurien Bay.

6. References

Choi, L. (2003) Factors affecting volunteerism among older adults. *Journal of Applied Gerontology* 22(2), 179-196.

Erlinghagen, M. and Hank, K. (2006) The participation of older Europeans in volunteer work. *Aging and Society* 26(4), 567-584.

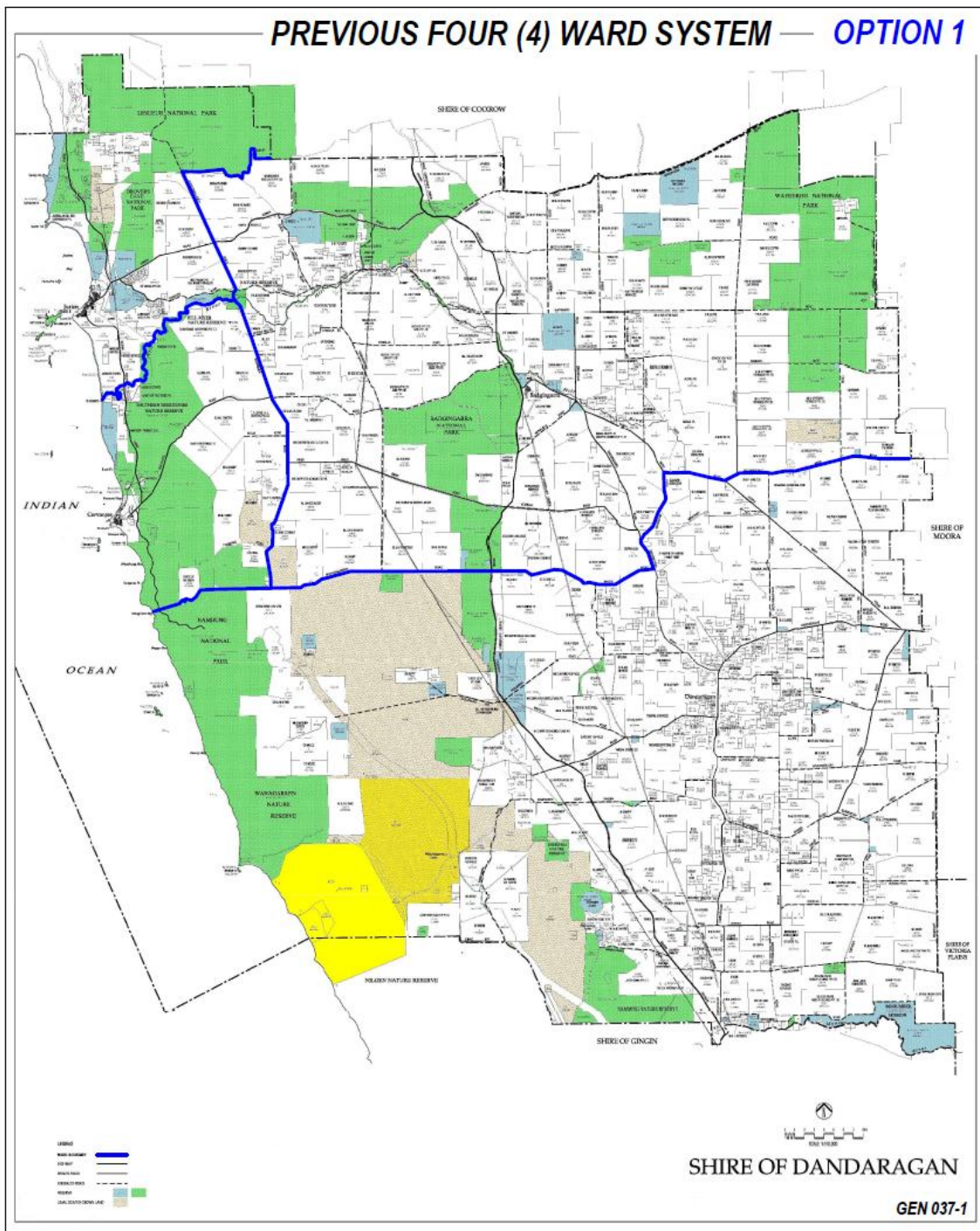
Local Government Advisory Board (2014) *A Guide for Local Governments: How to Conduct a Review of Wards and Representation for Local Governments with and without a Ward System*. Government of Western Australia, Perth.

Local Government Advisory Board (2014) *Ward Boundaries and Representation: The Processes Associated with Reviewing Ward Boundaries and Representation*. Government of Western Australia, Perth.

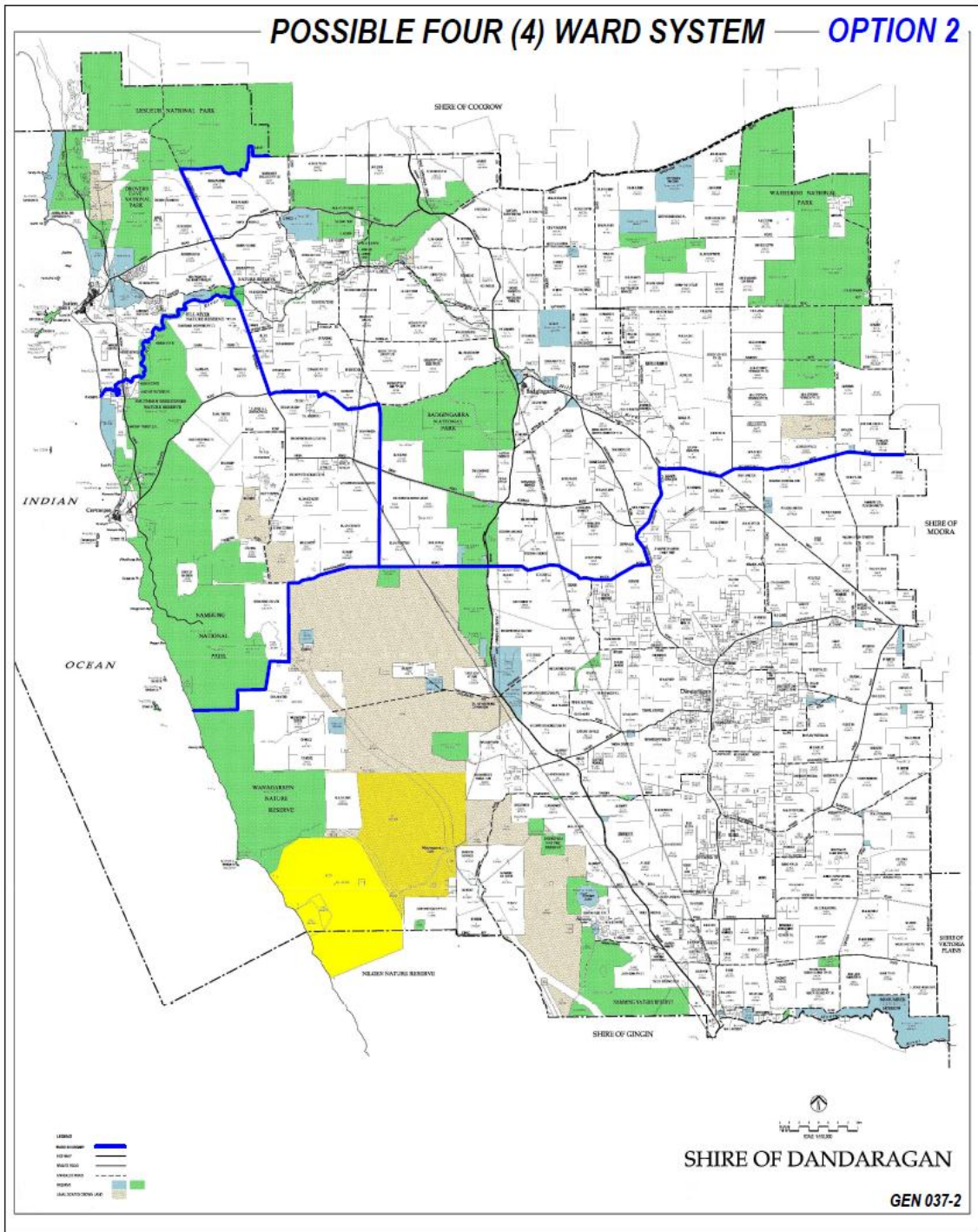
National Seniors Australia (2012) *Planning to be Productive: The Detailed Retirement Planning Strategies of Australian Pre-Retirees*. National Seniors Australia, Brisbane.



APPENDIX 1: Five Alternative Ward Boundary Options



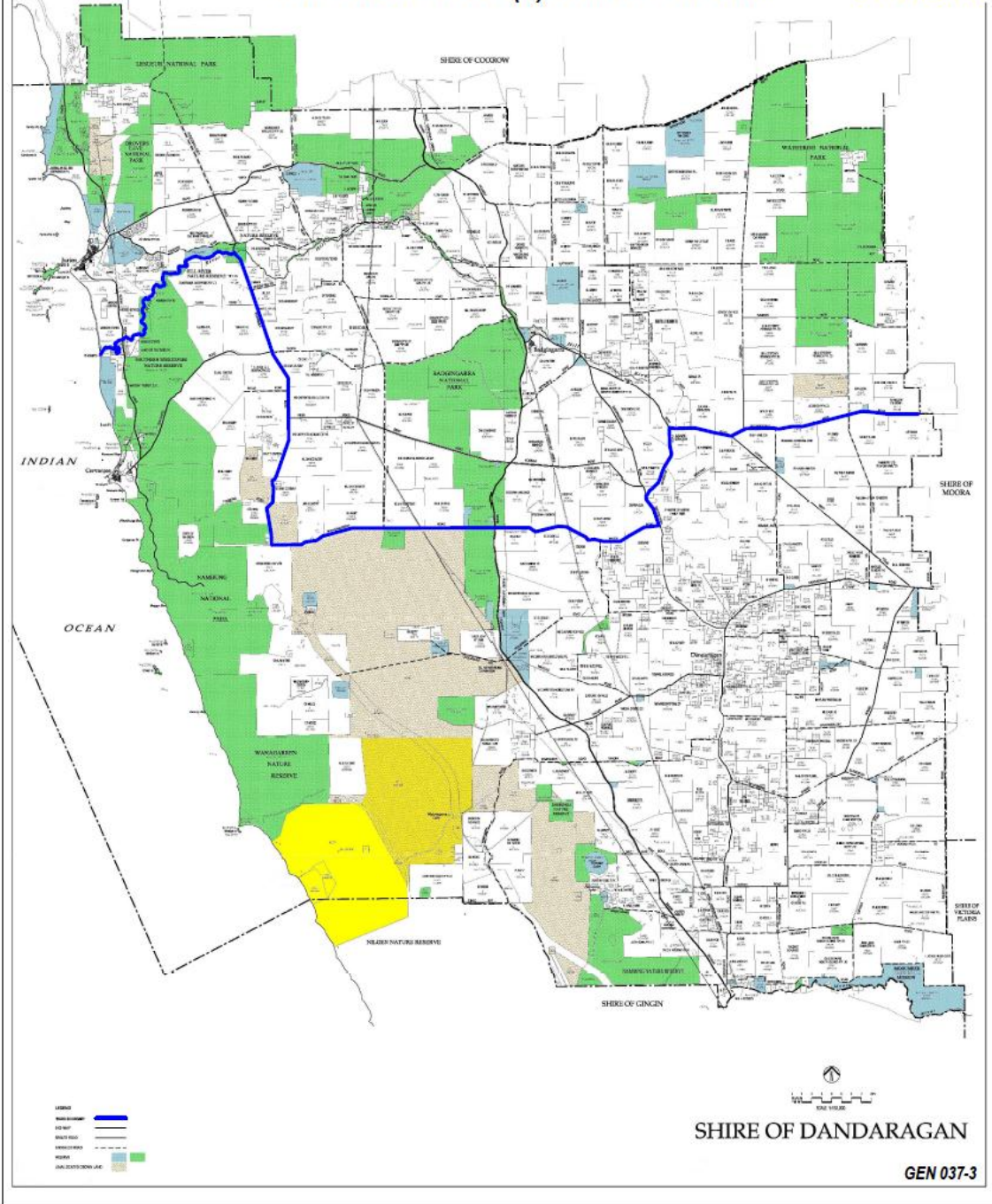
POSSIBLE FOUR (4) WARD SYSTEM — OPTION 2



SHIRE OF DANDARAGAN

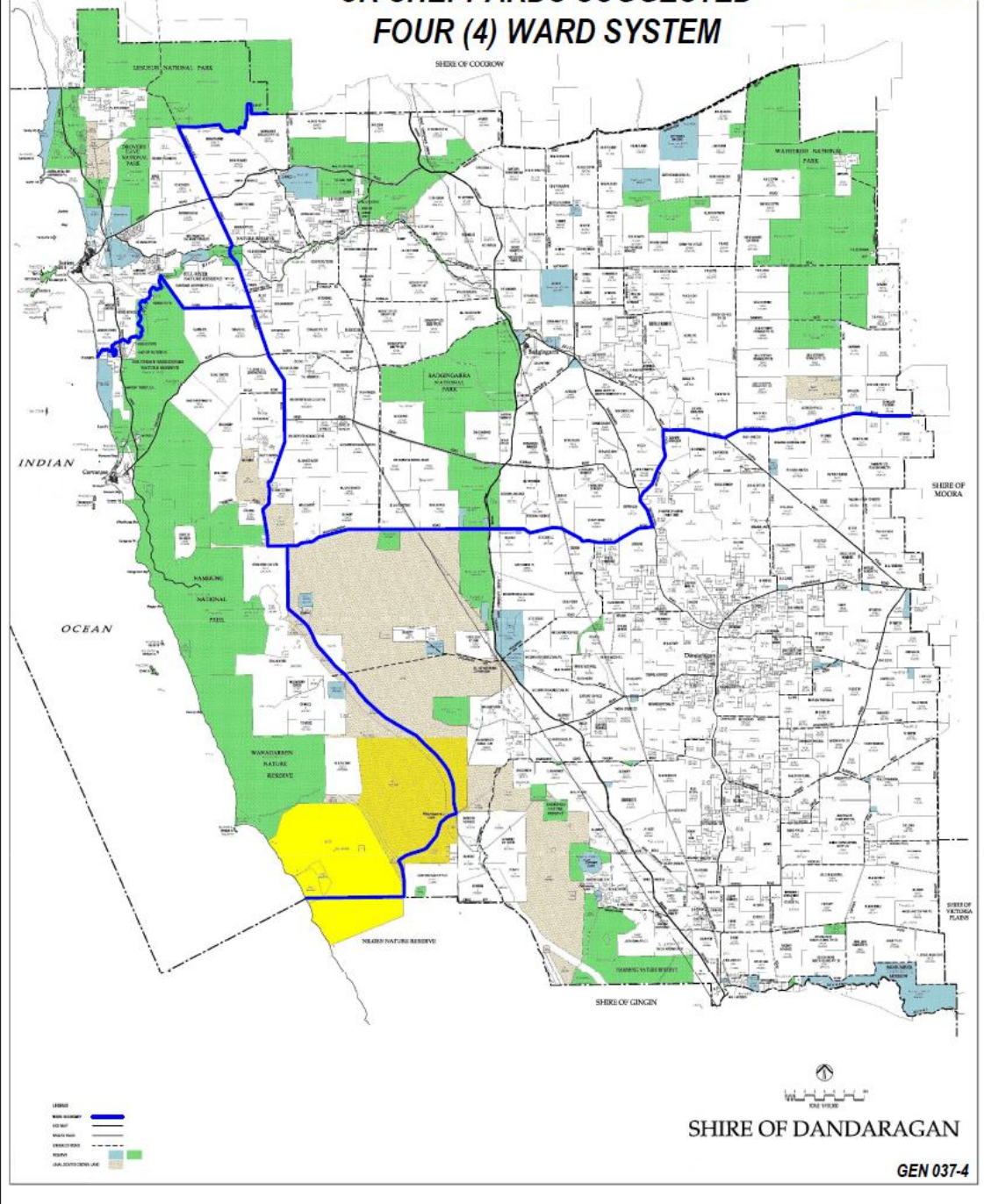
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PREVIOUS TWO (2) WARD SYSTEM — OPTION 3



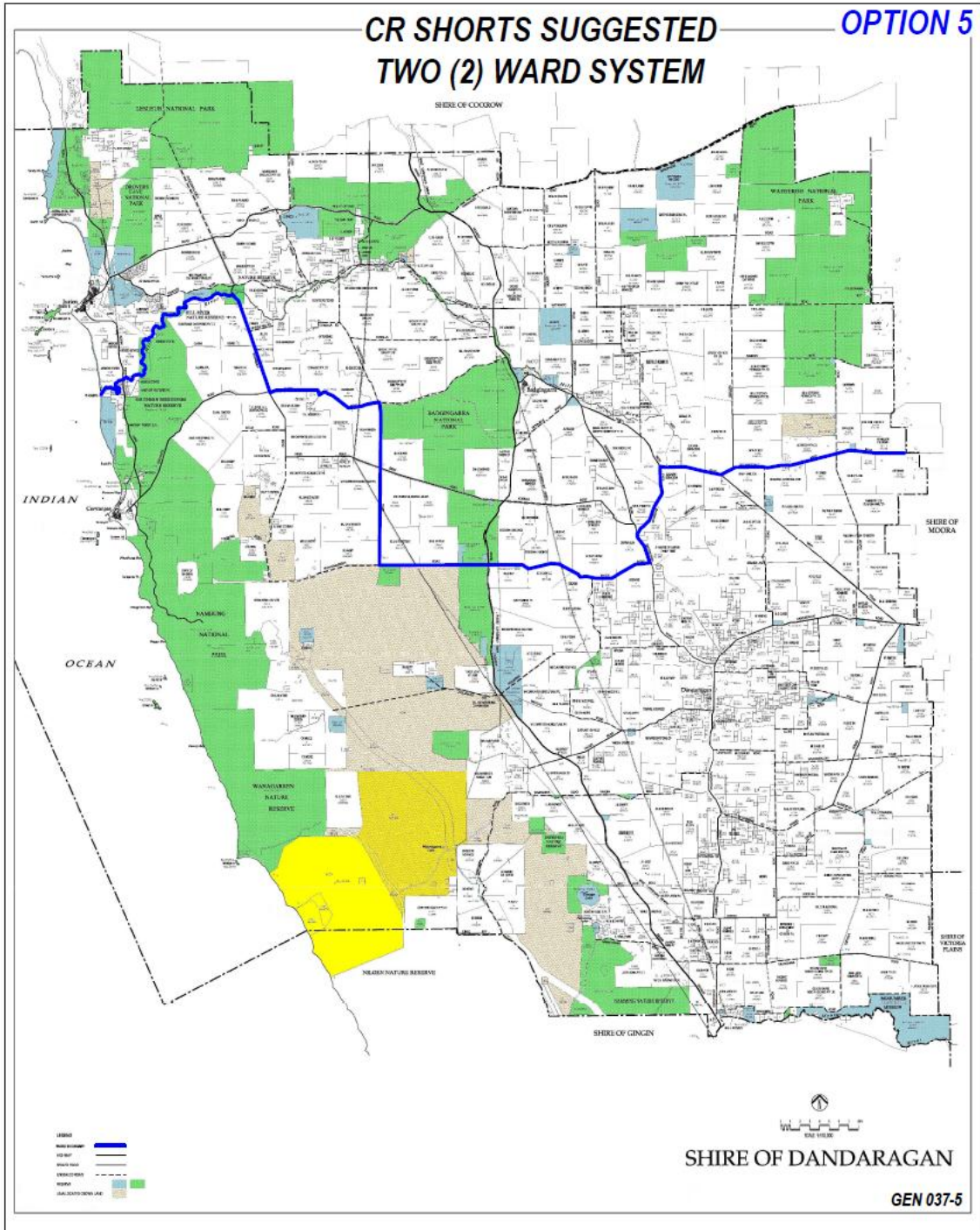
CR SHEPPARDS SUGGESTED FOUR (4) WARD SYSTEM

OPTION 4



**CR SHORTS SUGGESTED
TWO (2) WARD SYSTEM**

OPTION 5



APPENDIX 3: Interview schedules for community and government

Interview Question Schedule: Community

1. Do you represent any particular community in the Shire of Dandaragan? Please describe who you represent and your relationship with the Shire (e.g., community member, councillor).
2. What town do you live in? Please describe the identity of the town you live in.
3. How does the town fit into the social and economic character of the wider region? What features demark this wider region?
4. How are the interests of your town represented by the Council of the Shire of Dandaragan?
5. There are different scenarios for a new ward system currently under review (see maps), what do you see as the advantages and disadvantages of each? Which is your preferred ward system? Please explain why.

Interview Question Schedule: Government

1. Who do you work for? Please describe your role in this organisation.
2. Are there optimum characteristics for a particular ward to ensure success in a ward system? Please describe.
3. What are the advantages and disadvantages to a no ward system? How will this change if wards are introduced?
4. There are different scenarios for a new ward system currently under review for the Shire of Dandaragan (see maps), what do you see as the advantages and disadvantages of each?
5. Which ward system do you think will provide optimum benefit for the Shire and its constituent communities? Please explain.