

Jervis Bay

SETTLEMENT STRATEGY



Department of
Infrastructure, Planning and Natural Resources

October 2003

Note:

The Strategy is not a legal planning document but rather one that provides direction and guidance. It provides options for future urban and rural residential development in the Jervis Bay Region, taking into consideration the significant natural values of the area.

It does not rezone land for development.

It identifies land that will be further investigated in detail for possible rezoning and development through a public and transparent process as required in the Environmental Planning and Assessment Act 1979.

Acknowledgement:

The assistance provided during the preparation of this Strategy by Mr Ian Sinclair from EDGE Land Planning Pty Ltd and Dr Danny Wiggins from Blinkhorn & Wiggins Pty Ltd is acknowledged.



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Department of
Infrastructure, Planning and Natural Resources

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Forewords

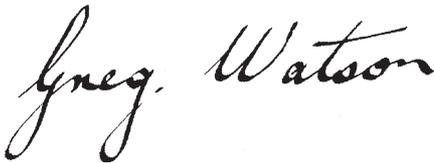
The Jervis Bay Region is recognised both nationally and internationally for its natural, cultural and recreational significant values. The Region has experienced high population growth as the natural values of the area make it a popular place to live, holiday and spend recreation time.

Council has prepared the Jervis Bay Settlement Strategy in collaboration with the Department of Infrastructure, Planning & Natural Resources (DIPNR) and other NSW State Government Agencies. The need for the Strategy was first identified in the Discussion Paper "Jervis Bay Our Heritage Our Future" which was prepared by the former Department of Urban Affairs & Planning in association with Council and assisted by an Advisory Committee. The Strategy also builds on the provisions of the Jervis Bay REP that was released by the State Government in 1997.

The Settlement Strategy is a strategic framework that will help guide the conservation of this important Region and also manage residential and rural residential growth in the area for the next 15-20 years. It does not itself rezone land for development; it does however identify broad potential development areas that will be further investigated and outlines issues that will be addressed in the more detailed rezoning and development processes that will follow for each area.

The Settlement Strategy outlines various Objectives, Actions and Implementation Responsibilities that will dictate the nature and time of the detailed investigations and other work that results from the Strategy. Council and the State Government will continue to work together to implement the Strategy. There will also be opportunities for continued public involvement in the rezoning and other detailed processes that follow the release of the Strategy.

It is accepted that given the environmental constraints and the need to protect the Region's unique environment there will be limited opportunities to continue to expand existing urban areas into the future. Thus other options to accommodate growth, such as urban consolidation and higher density residential, will need to be considered if growth is to continue in the future.



Greg Watson
Mayor
Shoalhaven City Council

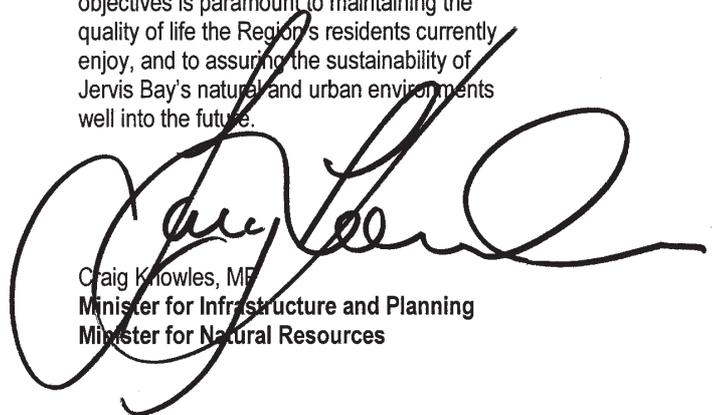
The Jervis Bay Region is an icon of the NSW South Coast. Its unparalleled natural and cultural values are precisely the reasons that make Jervis Bay an attractive place to visit and live, and which reinforce the need for coherent and sensible planning.

Like many coastal regions in NSW, Jervis Bay is facing settlement pressures. At the forefront of many people's concerns are the changing character of towns and villages, hazards such as bushfire and flooding, and the protection and management of the Region's water quality and unique biodiversity. Solutions to these and other issues must be found in collaboration with the communities of Jervis Bay and, clearly, we must all be mindful of managing changing settlement pressures carefully.

The development of this Settlement Strategy represents a positive and collaborative effort on behalf of Shoalhaven City Council, the communities of Jervis Bay, and the NSW Government. It complements and expands on the Jervis Bay Regional Environmental Plan gazetted by the NSW Government in 1997, and fulfils a key objective of the NSW Coastal Policy that requires Settlement Strategies be prepared prior to the rezoning of non-urban land in coastal areas.

The Strategy establishes a clear vision for the Region's settlement future. It will enable Shoalhaven City Council and the NSW Government to make planning decisions within a forward-looking and focussed growth management framework. In this regard, the Strategy contains an ambitious series of objectives and actions designed to achieve quality, well managed development and sustainable natural resource management outcomes.

The realisation of the Strategy's vision and objectives is paramount to maintaining the quality of life the Region's residents currently enjoy, and to assuring the sustainability of Jervis Bay's natural and urban environments well into the future.



Craig Knowles, MP
Minister for Infrastructure and Planning
Minister for Natural Resources

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Abbreviations

CAMBA	Agreement between Governments of Australia & China for the protection of migratory birds and their environment
CMP	Catchment Management Plan
DA	Development Application
DCP	Development Control Plan
DIPNR	NSW Department of Infrastructure, Planning and Natural Resources
EPA	NSW Environment Protection Authority
EPI	Environmental Planning Instrument
ES	Environmental Study
ESD	Ecologically Sustainable Development
HRC	Healthy Rivers Commission
JAMBA	Agreement between Governments of Australia & Japan for the protection of migratory birds and their environment
JBMP	Jervis Bay Marine Park
LEP	Local Environmental Plan
LGA	Local Government Area
MPA	Marine Parks Authority
NPWS	NSW National Parks & Wildlife Service
NSW	New South Wales
PA	Per Annum
PAMP	Pedestrian Access & Mobility Plan
PMF	Probable Maximum Flood
RAMSAR	The convention on wetlands of international importance
REMS	Northern Shoalhaven Reclaimed Water Management Scheme
REP	Regional Environmental Plan
RTA	NSW Roads & Traffic Authority
SCMC	Shoalhaven Catchment Management Committee
SEPP	State Environmental Planning Policy
TAFE	Technical and Further Education
TCM	Total Catchment Management

Executive Summary

The Jervis Bay Region is widely recognised for its natural, cultural and recreational values that are of national and international significance. Because of these values the Region is also a popular place to live and has experienced high population growth.

The Region is currently made up of 17 towns and villages and three recognised rural residential areas. The preparation of the Jervis Bay Regional Environmental Plan in 1996 was accompanied by a moratorium on major residential and rural residential land use changes in the Region, imposed by the Minister for Planning until such time as a Settlement Strategy was prepared and endorsed by the State Government.

This Settlement Strategy provides a strategic framework to manage residential and rural residential growth in the Region for the next 15-20 years. The Strategy itself does not rezone land for development, but identifies broad areas for potential development in the future and outlines issues that will need to be addressed in the more detailed rezoning process that will follow for each area.

The management of future settlement and growth of the Region cannot be looked at in isolation; as such the Strategy also addresses important related issues, namely environmental opportunities and constraints, social and economic factors, and how the Strategy is to be applied and implemented.

Vision and Principles for Managing Growth

This Settlement Strategy contains a vision for the Jervis Bay Region and a number of principles for managing growth. The Vision for the Region, outlined in Section 6 of the Strategy is as follows:

“To maintain and enhance the marine, estuarine and natural resources by providing balanced future living and visiting opportunities which are environmentally, socially and economically sustainable.”

The Strategy will achieve this vision by following the principles of Ecologically Sustainable Development (ESD) and ongoing consultation with the community as part of the planning processes for new settlement in the Region.

Given the Region’s environmental qualities, any future development needs to be responsive to the natural environment within which it is located. Section 8 of the Strategy therefore contains important Growth Management Principles that reflect the sensitivity of the Region and focus on achieving ecologically sustainable outcomes when planning and considering development.

The conservation of environmental qualities is seen as one of the important principles in the Region. Also, it is essential to ensure that future population growth is sustainable and matched to environmental constraints that determine how much growth the identified new areas can accommodate. This will allow future landuse decisions to be made with a high degree of scientific certainty.

In the longer term, given the environmental and social limits to growth in the Region, there will be a need to identify and investigate opportunities for other forms of settlement within existing urban areas, such as infill development and urban renewal and consolidation.

Objectives and Actions

Sections 9 and 10 of the Strategy contain a series of Objectives and a range of Actions that will guide future settlement and planning of the Region. These provisions need to be considered in a holistic manner and not read in isolation. It may not be possible for all the Actions to be literally complied with to the fullest extent, and any proposals and associated processes will need to weigh up the relevance of the Actions that may apply.

The Objectives and Actions identified in the Strategy are set out under the following headings:

Environmental Opportunities and Constraints

- Water Quality and Flow
- Freshwater, Marine & Estuarine Biodiversity
- Land Based Biodiversity
- Soils
- Landscape
- Cultural Heritage
- Bush Fire
- Flooding

- Urban Stormwater Management
- Riparian Areas
- Economic Resources

Social and Economic Context

- Settlement Hierarchy
- Residential Development
- Urban Renewal
- Rural Residential Development
- Small Lot Rural Subdivision
- Infrastructure Requirements
- Access
- Community Services and Facilities
- Economic Development and Tourism
- Timing, Staging and Monitoring

The various Objectives and Actions presented in the Strategy will be pursued by Council and the NSW Government within identified timeframes.

The Strategy Principles Plan

The Strategy Principles Plan (Map 10) outlines spatially the broad features of the Strategy. The Principles Plan should be read in conjunction with the Objectives, Actions, Responsibilities and Timeframes for Implementation that are the basis of the Strategy. The Strategy Principles Plan (and associated detailed maps) identifies the following settlement proposals which are discussed in the Strategy:

Residential Development (Section 10.2)

Culburra Beach - review the planning controls for the existing urban expansion area in light of the Commission of Inquiry and Ministerial decision on the proposed Long Bow Point subdivision.

Callala Bay - investigate for possible expansion to the west and resolve the existing small lot rural subdivision in association with any rezoning.

St Georges Basin/Sanctuary Point - investigate expansion of the urban-zoned area to the St Georges Basin Bypass, consistent with the Jervis Bay REP.

Jervis Bay District Centre - provide for the staged development of the existing residential zoned land adjacent to the District Centre site and investigate the potential for integrated housing in the commercial area.

Urban Renewal (Section 10.3)

Huskisson - promote as the gateway to the Jervis Bay Region by providing a range of integrated housing opportunities for both tourist accommodation and permanent living, through a combination of urban consolidation and higher densities.

Rural Residential Development (Section 10.4)

Rural Residential Deferred Areas - the potential for the existing rural residential deferred areas at Woollamia/Falls Creek, Tomerong and Basin View to accommodate increased densities will be investigated and resolved.

Worowing - the possibility of limited development that also provides for the protection and management of the habitat corridor in the locality will be investigated.

Small Lot Rural Subdivisions (Section 10.5)

Heritage Estates - consideration of the development potential will be undertaken in accordance with the findings and recommendations of the Commission of Inquiry and other relevant environmental investigations.

Jerberra Estate - investigate the potential for rural residential development through a review of lot sizes and configuration in order to accommodate on site effluent disposal and other relevant issues/considerations.

Nebraska Estate - investigate the potential for rural residential through a review of lot sizes and configuration in order to accommodate on site effluent disposal; the performance of the environmental measures at Park Road; and other relevant issues/considerations.

Woollamia Farmlets - investigate the potential for development through a review of lot sizes and configuration in order to accommodate on site effluent disposal and other relevant issues/considerations.

The Strategy outlines the detailed investigations and planning outcomes that will be required to determine whether the above areas can be developed and their development potential. Those areas on the Strategy Principles Plan that are not identified as either conservation area, existing urban zoned area or are

covered by a specific Strategy proposal are shown white or unshaded on the plan and retain their existing zoning under Shoalhaven LEP 1985.

Implementation

Council and the State Government will continue to work together to implement the Strategy. The various Objectives, Actions and implementation responsibilities may, where necessary, dictate the nature and time of the detailed investigations and other work that result from the Strategy.

For example a detailed environmental study and draft LEP will need to be prepared in accordance with the provisions of the *Environmental Planning & Assessment Act 1979* before any land that is not currently zoned for development but identified in the Strategy is considered for rezoning to residential use. Opportunities for public involvement will continue through the rezoning and other detailed processes that follow the release of the Strategy. Council and the State Government will also ensure that the Strategy is appropriately monitored and reviewed through time to ensure that it responds to new information and adopts an adaptive approach to continued settlement in the Region. The Strategy sets out arrangements to coordinate and monitor the progress and implementation of this document into the future.

Conclusion

The character and values of the Jervis Bay Region are central to its future, and maintaining, preserving and enhancing these values requires careful planning. This Settlement Strategy represents a major planning initiative of Council and the NSW Government, and sets out an agreed framework for managing settlement and growth of the Region into the future.

Section A - Introduction

1. Introduction

Jervis Bay is a place of great significance for the natural and human environment which requires specific and careful management. The following quote from the publication *Jervis Bay - A place of Cultural, Scientific and Educational Value* (Cho et al 1995) outlines the attributes of the Region:

“Jervis Bay is a unique area with outstanding landscape, biotic and cultural values of local, national and international significance. The clear blue waters, the spectacular white beaches, the rugged landscape, the forests, woodlands, heaths, swamps and marshes, dune lakes and marine environments that support a rich variety of life, the cultural heritage steeped in history that predates European settlement - these are a magnet to tourists. They leave the visitor with a lasting memory of a natural treasure that must be preserved for future generations. The challenge for the present generation, and the governing bodies and agencies that represent its interests, is to ensure that its preservation comes about.”

“Conservation of the intrinsic natural and cultural features that make Jervis Bay a special place require a regional approach, encompassing the bay and its entire water catchment, and to strike a balance between conservation and development. We must seek integrated management based on the cooperation of all controlling interests in the region.”

The Jervis Bay Region is recognised for its natural, cultural and recreational values, which are of national and international significance. The abundance of bushland, the juxtaposition of the waterways and the existing settlement patterns all combine to make the area one of importance for human and natural environmental values. The Jervis Bay area has experienced high population growth, as the Region’s character and natural values make it a popular place for people to live, holiday and spend recreation time.

Compared to many other areas of the NSW coastline, the Region remains relatively unspoilt. The challenge for the future is to achieve a balance between the provision of living opportunities in the Region whilst striving to conserve its natural values and ecosystems.

1.1 Need for a Settlement Strategy

The State Government placed a moratorium on further major residential or rural residential rezoning in the Jervis Bay Region until a Settlement Strategy was prepared and endorsed by the State Government. A Settlement Strategy will allow the pressures for growth to be clearly identified, and provide a context to the range of issues to be investigated and resolved as part of the planning process.

The NSW Government required the Strategy to provide sufficient detail in order to:

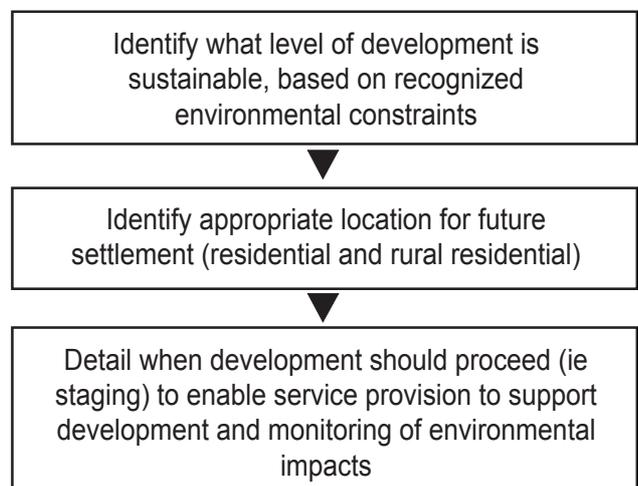


Figure 1 - Strategy Requirements

The Settlement Strategy represents a major policy initiative between Council and the State Government. The broad aim of the Settlement Strategy is to manage future growth and settlement in the Region, including residential and rural residential development, for the next 15-20 years.

The Strategy itself does not rezone or change the use of land within the area. It identifies broad areas for potential future development, and sets principles to guide the planning outcomes for these areas if they are to be rezoned or developed.

The Strategy is also a statement of the interactions between the human and natural environments operating in and on the Region. While the Strategy itself is a stand alone document, it will ultimately operate within a broader set of other State Government and Council initiatives, which include: the Jervis Bay REP; the establishment of the Jervis Bay National Park and Marine Park; the Jervis Bay

Integrated Management Program; the State Government's Coastal Protection Package; Council's stormwater, flooding, and estuary programs; the Healthy Rivers Commission Coastal Lakes Inquiry; the Water Reform Process; and other relevant Government policies. These initiatives are detailed in Section 4 of the Strategy.

2. Location and Study Area

Jervis Bay is located in the City of Shoalhaven on the New South Wales south coast. It is a major recreation and tourist area and important environmental resource. Map 1 shows the location of Jervis Bay and its relationship within the Shoalhaven Local Government Area.

The Jervis Bay Region for the purposes of this Strategy is that area defined by the Jervis Bay Regional Environmental Plan 1996, and is illustrated at Map 2.

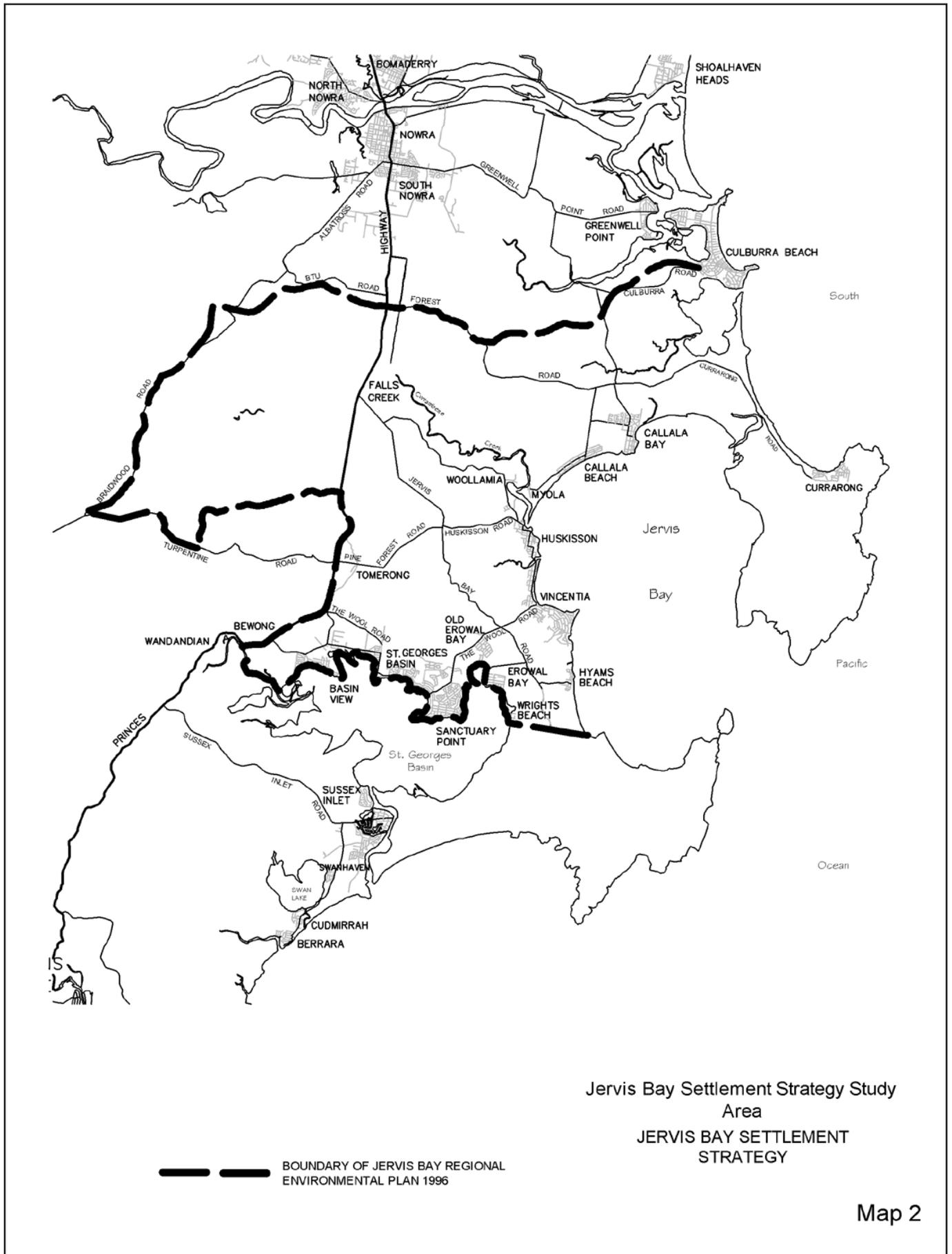
The existing towns and villages within the Region are:

- Culburra Beach (southern part)
- Currarong
- Callala Bay
- Callala Beach
- Myola
- Huskisson
- Woollamia
- Vincentia
- Hyams Beach
- Wrights/Bream Beach
- Erowal Bay
- Old Erowal Bay
- Sanctuary Point
- St Georges Basin
- Basin View
- Tomerong
- Falls Creek

There are a number of other settlement areas in the Region that occur outside of the existing towns and villages listed above, including the rural residential areas at Woollamia/Falls Creek, Tomerong and Basin View.

The characteristics of existing settlements in the Region, including their services and infrastructure, are set out in Appendix 1.

Map 2 - Jervis Bay Settlement Strategy Study Area



Map 2

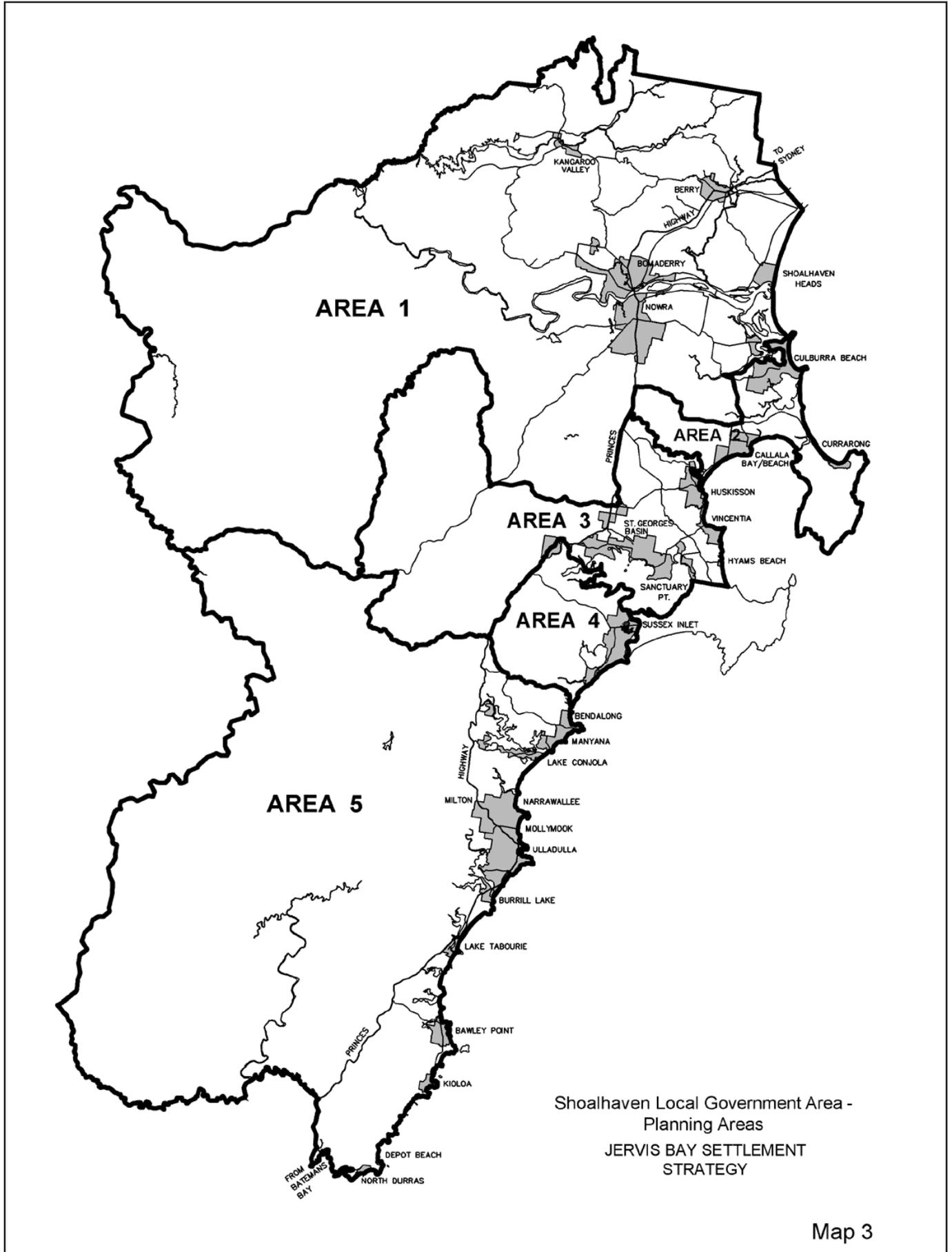
3. Population Profile, Growth & Dwelling Demands

To plan for the future it is important to understand the existing characteristics of the Region and its communities. The information in this Section provides a valuable overview of the population, dwelling characteristics, and drivers behind settlement pressures in the Region. The following population data has been taken from the 2001 Census of Population and Housing.

Shoalhaven is divided into five planning areas, which are used by Council in the planning and delivery of services. They also link together towns and villages within similar geographic and topographic areas. Area 1 is located in the north and includes the main centre of Nowra-Bomaderry. Areas 2 and 3 form most of the Jervis Bay Region (the villages of Orient Point and Crookhaven Heads are outside the study area). Areas 4 and 5 are located to the south, encompassing the major urban centre of Milton-Ulladulla.

Map 3 shows the planning areas of Shoalhaven City LGA.

Map 3 - Shoalhaven LGA Planning Areas



Map 3

3.1 Existing Population

Table 1 displays the 2001 population and dwelling statistics for planning areas 2 and 3 in the Shoalhaven LGA. It shows that the total population for the Jervis Bay Region in 2001 was 22,856 and that, as an average, approximately 35% of dwellings in settlements throughout the Region were unoccupied at the time of the Census - this percentage, however, varies considerably among individual settlements.

The majority (71%) of the Region's population lives in settlements within planning area 3, with St Georges Basin-Sanctuary Point and Vincentia being the main urban centres. Approximately 29% of the Region's population lives in settlements within planning area 2, with the major centres being Culburra Beach-Orient Point and Callala Bay.

Table 1 - 2001 Settlement Population and Dwelling Statistics

Settlement	Population	1996-2001 Yearly Growth Rate (%)	Occupied Private Dwellings	Unoccupied Private Dwellings	Total Private Dwellings	% Unoccupied
Culburra/Orient Point ⁽¹⁾	3622	0.5	1456	918	2374	38.6
Callala Bay	1557	7.9	582	356	938	37.9
Callala Beach	783	2.9	383	473	856	55.2
Currarong	549	-0.2	260	299	559	53.4
Myola	97	2.0	51	29	80	36.2
Total Area 2	6608	2.2	2732	2075	4807	43.1
Woollamia	159	9.3	71	16	87	18.3
Huskisson	775	-2.3	375	216	591	36.5
Vincentia	2534	0.4	1082	861	1943	44.3
Hyams Beach	130	-3.8	65	168	233	72.1
Old Erowal Bay	914	4.5	338	91	429	21.2
Erowal Bay/Wrights Beach	592	4.2	240	224	464	48.2
Sanctuary Point	5866	3.8	2534	960	3494	27.4
St Georges Basin	1756	9.3	684	228	912	25
Basin View	1206	3.7	461	171	632	27
Tomerong	210	-6.3	76	10	86	11.6
Area 3 Rural	2106	0.0	755	120	875	13.7
Total Area 3	16248	2.7	6681	3065	9746	31.4
TOTAL	22856		9413	5140	14553	35.3

Notes:

(1) Orient Point/Crookhaven Heads are located outside the catchment of Jervis Bay. However, it is difficult to separate the areas and as such the total figures for Culburra Beach/Orient Point are provided.

3.2 Demography

The following Section provides a demographic overview of Shoalhaven and, specifically, the Jervis Bay Region. It has been compiled from data released by the Australian Bureau of Statistics obtained from the 2001 Census of Population and Housing. The 'Illawarra Region' referred to in the following discussion comprises the Local Government Areas (LGAs) of Wollongong, Shellharbour, Kiama, Wingecarribee and Shoalhaven.

Shoalhaven

Data from the 2001 Census reveals the following demographic information and trends for Shoalhaven City, and its relationship to the greater Illawarra and South Coast, and NSW:

- Shoalhaven has a high growth rate of 1.72% per annum, compared with 1.08% for NSW and 1.17% for Illawarra. Significantly, the dominant age group was persons aged 55 years and over (31.1%), with the majority of older people living in the southern and coastal areas;
- a higher than average percentage of children aged 0-14 years (21.8%) reside in Shoalhaven, compared with 21.6% for Illawarra and 20.8% for NSW. Nowra-Bomaderry and the Northern Shoalhaven Planning Area (Area 1) has a younger profile than other areas in the Shoalhaven, however, Areas 2 and 3 also have high percentages of 0-14 year olds;
- the percentage of older persons and children residing in Shoalhaven has consistently increased over time;
- the proportion of young people aged 14-24 in Shoalhaven (15%) is comparatively lower than the Illawarra (17%) and NSW (17.6%), which may reflect the need for young people to move away from Shoalhaven for training and employment opportunities;
- Shoalhaven has a low percentage of residents (4.5%) born overseas in non-English speaking countries, compared to Illawarra (10.3%) and NSW (16%);

- 39% of the Aboriginal and Torres Strait Islander people within the Illawarra area reside in Shoalhaven. 3.5% of Shoalhaven residents (3002 persons) are of Aboriginal or Torres Strait Islander descent, compared with 2.0% in the Illawarra and 1.9% in NSW;
- most Aboriginal and Torres Strait Islanders live in the northern Shoalhaven (Area 1);
- the majority of households in Shoalhaven consist of families with children (38.2%);
- villages and outlying areas have higher proportions of lone person households, particularly the Sussex Inlet Planning Area (Area 4);
- the proportion of single parent households in Shoalhaven (15.6%) is comparable with Illawarra and NSW;
- the majority of residents in the City (91.8%) reside in a separate dwelling house;
- there is high home ownership in Shoalhaven (50.2%) compared to the Illawarra (44.7%) and NSW (41.1%);
- dwelling occupancy rates are comparatively low in Shoalhaven, which reflects the high proportion of holiday homes in the LGA; and
- the City's unemployment rate was 11.1% in 2001

Jervis Bay Region

The Jervis Bay Region contains two of Council's local planning areas - Areas 2 & 3. The following demographic information forms a basis for understanding the settlement, community service, and infrastructure needs of the Region.

Area 2

Area 2 contains the existing settlements of Culburra Beach, Orient Point, Callala Bay, Callala Beach and Currarong. The 2001 Census reveals the following information and trends:

- Culburra Beach/Orient Point is the major residential centre in Area 2, both as a retirement and holiday retreat as well as a dormitory centre for Nowra;
- Area 2 is characterised by a high aged population, with 23.1% aged 65 years and over, and 36.1% aged 55 years and over;
- the area has the highest percentage of unoccupied dwellings (46.6%) and the highest proportion of separate houses (94.9%) in Shoalhaven; and
- whilst most settlements in Area 2 experienced growth during the 1996-2001 Census period, Currarong's population declined by -0.2% per annum (pa) during this period. This decline in population reflects the village's changing population demographics resulting from growing holiday home and absentee ownership.
- the second highest percentage of Aboriginal and Torres Strait Islanders for Shoalhaven reside in Area 3 (16.8% or 509 people);
- Area 3 has the highest percentage of residents born overseas in non-English speaking countries (5.9%), with Germany (0.9%) and Italy (0.5%) being the dominant countries of origin;
- there is a relatively high percentage of dwellings unoccupied (31.4%), and the second highest proportion of separate houses in Shoalhaven (94.8%);
- most settlements in Area 3 experienced growth during the 1996-2001 Census period. However the populations of Huskisson (-2.3% pa), Hyams Beach (-3.8% pa) and Tomerong (-6.3%pa) declined during this period. This decline in population reflects the changing population demographics of these villages and in the case of Huskisson and Hyams Beach results from growing holiday home and absentee ownership.

Area 3

Area 3 contains the existing settlements of Huskisson, Vincentia, Hyams Beach, St Georges Basin-Sanctuary Point, Basin View, and Erowal Bay. It also contains the rural residential settlements at Woollamia-Falls Creek and Tomerong. The 2001 Census reveals the following information and trends:

- with a population of 16,248, Area 3 is the fastest growing area in the Region, having experienced an average compound growth rate of 2.7% during the 1996-2001 intercensal period. Although high, this rate slowed comparative to the growth level experienced during 1986-1991 and 1991-1996 Census periods;
- between 1991 and 1996 considerable numbers of people moved into settlements adjoining St Georges Basin and Jervis Bay, including Basin View, St Georges Basin and Vincentia;
- the age profile for the area is dominated by 40-54 year olds (20%), 65 years and over (19.7%), and 25-39 year olds (16.6%);

3.3 Population Growth and Dwelling Demands

The Shoalhaven Housing Strategy (SCC 2000) acknowledges that Shoalhaven is generally undergoing significant change as a result of population growth and diversification.

The following discussion on population growth and dwelling demand has been taken from work prepared by Council. Because of the small size of a number of the towns and villages in the Region, the population projections and resultant dwelling demand data is based on the planning areas 2 and 3 (see Map 3).

Table 2 contains information on past population growth in the Region for the 1981 to 2001 Census periods. Tables 3-5 contain information on

population projections, dwelling demands, and existing development potential of settlements in the Region.

In summary, the information shows that for the period 1986 to 1991 the Region experienced a high population growth of between 5.07 and 7.91 % per annum, and a population increase of approximately 11,300 people. In recent years (1991-2001), growth rates have slowed to 2.73%-2.2% (Area 2) and 4.18%-2.7% (Area 3) per annum. This slowing in growth rates is consistent with the overall trend for Shoalhaven, which has come from a combination of factors including diminishing land supply, employment opportunities, etc. However, Shoalhaven's growth rates remain considerably higher than the NSW average of 1.5%-1.08% per annum for the same period.

Table 2 - Past Population Growth 1981-2001

Population Growth in Area 2 Urban Area ⁽¹⁾									
	1981	1986	Growth 1981-86 (pa)	1991	Growth 1986-91 (pa)	1996	Growth 1991-96 (pa) ⁽²⁾	2001	Growth 1996-01 (pa)
Census	3,210	4,038	828 4.69%	5,171	1,133 5.07%	5,916	745 2.73%	6,608	692 2.2%
Population Growth in Area 3⁽³⁾									
Census	5,623 ⁽¹⁾	7,917	2,294 7.08%	11,584	3,667 7.91%	14,217	2,633 4.18%	16,248	2,031 2.7%
TOTAL	8,833	11,955	3,122	16,755	4,800	20,133	3,378	22,856	2,723

Notes:

- (1) The dwellings in the rural part of Area 2 are located along the Culburra access road and are negligible in number. As such, the population described relates only to the urban areas of Culburra Beach, Orient Point, Callala Bay, Callala Beach, Myola and Currarong.
- (2) Due to the changes to the Census districts, the only direct growth series is between 1991 and 1996.
- (3) The figures prior to 1991 are approximate only as the urban areas of Woollamia and Hyams Beach were not counted separately and there were some adjustments to the rural census districts.

Table 3 - Population Projections

Area 2 Projections - Urban Areas					
	1996	2001	2006	2011	2016
1	5,916	6,608	7,810	8,700	9,800
2	5,916	6,608	7,220	7,840	8,510
Area 3 Projections					
1	14,217	16,248	19,190	22,180	25,240
2	14,217	16,245	18,910	21,660	24,520
Total 1	20,161	22,856	27,000	30,880	35,040
Total 2	20,161	22,856	26,130	29,500	33,030

Projection 1 - Assumes net migration 1986-96. Projection 2 - Assumes net migration 1991-96.

Table 4 - Dwelling Demand

Area 2 Projections - Urban Areas			
	2006	2011	2016
1	5,360	5,800	6,370
2	4,955	5,230	5,530
Area 3 Projections			
1	11,170	12,650	14,060
2	11,110	12,355	13,660
Total 1	16,530	18,450	20,430
Total 2	16,065	17,585	19,190

Notes:
The figures in tables 3 and 4 have been calculated prior to the 2001 unadjusted census information. Once the ABS adjusted figures become available, projections based on these adjusted figures can be calculated. The forecasted dwelling demand factors-in projected vacancy rates.

Table 5 - Development Potential of Settlements

(Note: The development potential figures relate only to the existing urban zoned areas).

Settlement	Existing Development (Dwellings)				Additional Potential Development (Dwellings)				
	Detached	Dual Occupancy	Medium Density	Total Dwellings	Detached	Dual Occupancy	Medium Density	Total Dwellings	Total Dwelling Capacity
Culburra Area ⁽¹⁾	2,163	22	72	2,257	177	0	109	286	2,543
Callala Bay	831	4	0	835	409	0	20	429	1,264
Callala Beach	828	2	3	833	202	0	0	202	1,035
Currarong	537	12	14	563	17	0	0	17	580
Myola	60	0	0	60	10	0	0	10	70
Area 2 Total	4,419	40	89	4,548	815	0	129	944	5,492
Woollamia	61	0	0	61	41	0	0	41	102
Huskisson ⁽²⁾	411	10	122	543	8	0	166	174	717
Vincentia ⁽³⁾	1,767	12	89	1,868	214	0	106	320	2,188
Hyams Beach	209	0	11	220	11	0	0	11	231
Old Erowal Bay ⁽⁴⁾	427	0	0	427	128	0	300	428	855
Erowal Bay/Wrights Beach	418	2	0	420	70	0	0	70	490
Sanctuary Point	3,229	16	37	3,282	1,128	0	132	1,260	4,542
St Georges Basin ⁽⁵⁾	788	0	0	788	562	0	392	954	1,742
Basin View ⁽⁶⁾	598	2	9	609	144	0	70	214	823
Tomerong ⁽⁷⁾	117	4	0	121	89	0	0	89	210
Area 3 Total	8,025	46	268	8,339	2,395	0	1,166	3,561	11,900
TOTAL	12,444	86	357	12,887	3,210	0	1,295	4,505	17,392

General Notes:

The above data does not include existing zoned Crown land within settlements, as its availability for development is uncertain due to a number of issues, including Native Title. Any dealings with Crown Land are governed by the provisions of the Crown Land Act 1989, and a Crown Land Assessment is required to determine the future use of Crown Land, regardless of current zoning.

The potential for dual occupancy development has not been included in the assessment of potential development. Council has not yet determined its policy and, as such, demand/supply is difficult to predict.

Specific Notes:

- (1) Data does not include the zoned urban expansion area, as its future is uncertain.
- (2) Allows for approximately 30% of detached dwellings in 2(b2) zone to be redeveloped.
- (3) Does not include recently zoned area - approximately 850 new dwellings.
- (4) Includes 300 persons aged care units - DA approved.
- (5) Includes 57 permanent occupancy mobile home parks - DA approved.
- (6) Includes 70 aged persons self care units - partially constructed.
- (7) Assumes 2 dwellings per hectare - unsewered.

Tables 3 and 4 suggest that on the basis of past and current trends in the Region, Jervis Bay's population could be expected to reach between 33,000 and 35,000 by 2016. This scenario would require an additional 19,190 to 20,430 dwellings in the Region in order to accommodate the housing needs of the projected population.

A comparison of data presented in Tables 4 (dwelling demand) and 5 (development potential) indicates, however, that there is only sufficient existing zoned land to accommodate the above projected population to the period up to 2008. The most pressing issue for Area 2 regarding current land availability is the need to resolve the future of the Culburra Beach urban expansion area. The future development of this area is currently uncertain in light of the outcomes arising from the Long Bow Point Commission of Inquiry (see Section 10.2). If the growth projections for Area 2 are realised and the expansion area unresolved, Area 2 is likely to be fully developed by 2006-2007.

In the southern part of the Region, additional development in Area 3 may be required to satisfy dwelling demand in the period to 2008. Some of this demand could be accommodated in the existing zoned but undeveloped residential area adjacent to the Vincentia District Centre, which has the potential to accommodate up to 850 new dwellings (see Section 10.2). However, this figure may not be fully realised and as such has not been included in the figures in Table 5. Detailed investigations will be required at the development stage to determine the actual development potential of this area.

Given the range of environmental, social and economic constraints in the Region that limit opportunities for development (outlined in further detail in Sections 9-10), it is essential that work on future settlement options for Jervis Bay commences as soon as possible in order to address the Region's needs up to and beyond 2008. A certain amount of demand will be accommodated by existing urban zoned but yet to be developed areas (see Table 5, which shows the development potential of existing settlements in the Region), however, in light of the Region's unique qualities, only limited areas have been nominated in this Strategy to be investigated for future urban expansion (see Strategy Principles Plan, Map 10).

Vacancy Rates

The Jervis Bay Region has a high incidence of holiday home ownership, and the traditional demand from owners in Sydney, Wollongong and to a lesser extent inland rural areas, remains evident. The vacancy rate for Area 2 in 2001 was 41.6% and 31.9% for Area 3 (see Table 1). Based on previous Census periods, vacancy rates appear to be declining and this trend is expected to continue into the future.

Settlement planning in the Jervis Bay Region will need to be undertaken mindful that the demand for housing is, in part, related to holiday home ownership. The gradual provision of essential infrastructure such as water and sewerage services has retained the attraction of Jervis Bay as a "buy now, retire later" proposition.

Urban renewal

In addition to the physical, infrastructure and servicing constraints to outward urban expansion, rising land values and the subsequent increase in land rates will impact on future settlement in the Region.

Opportunities for linear expansion of some existing settlements in the Region are limited, and therefore infill development, urban consolidation and urban renewal is an appropriate settlement option that should be pursued in managing Jervis Bay's future population. There is potential for existing urban areas of the Region to provide higher density development in order to increase dwelling yields. However, this has traditionally been resisted by the community because of rapid changes to and impacts on the character of towns and villages.

This Strategy recognises the need to involve the community and sensibly manage infill and urban consolidation and renewal issues in light of these concerns (see Section 10.3).

4. Statutory Context

There are numerous Acts, regulations, policies and other documents that apply to the Region. The following is a brief overview of the statutory framework relevant to the implementation of this Settlement Strategy.

4.1 Commonwealth

The Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* contains relevant legislative responsibilities in relation to nationally listed threatened species, migratory birds listed under the JAMBA and CAMBA agreements, RAMSAR listed wetlands, and Commonwealth Reserves (such as Booderee National Park).

4.2 State

A wide range of NSW environmental and planning legislation applies to the Jervis Bay Region, including, amongst others: *Environmental Planning & Assessment Act 1979; Fisheries Management Act 1994; Threatened Species Conservation Act 1995; Native Vegetation Conservation Act 1997; Rural Fires Act 1997; Protection of the Environment Operations Act 1997; Rivers and Foreshores Improvement Act 1948; Coastal Protection Act 1979; Marine Parks Act 1997; and Water Management Act 2000*. There are a number of other relevant statutory and non-statutory instruments and plans applicable in the Region.

More detail on how the Settlement Strategy interacts with the NSW planning system in particular, is provided in Section 5.

State and Regional Environmental Planning Instruments (EPIs)

There are a number of existing State EPIs under the *Environmental Planning & Assessment Act 1979* that apply to the Region. They include:

- State Environmental Planning Policy (SEPP) No. 14 - Coastal Wetlands;
- State Environmental Planning Policy No. 26 - Littoral Rainforests;

- State Environmental Planning Policy No.71 - Coastal Protection; and
- Jervis Bay Regional Environmental Plan (REP) 1996.

The Jervis Bay REP in particular provides specific controls on land use, and sets criteria to be addressed and achieved in the assessment of development applications. The REP aims to:

- (a) protect the natural and cultural values of Jervis Bay; and
- (b) allow proposals which contribute to the natural and cultural values of the area.

The REP includes specific provisions relating to the following issues that affect development in the Region:

- Catchment protection;
- Landscape quality;
- Cultural heritage;
- Habitat corridors;
- Disturbed habitat and vegetation;
- New urban releases;
- Tourism development; and
- National Parks.

Significantly, the REP identified and zoned 6,000 hectares of the Region as National Park 8(a) and Proposed National Park 8(b), to facilitate the creation of the Jervis Bay National Park.

This Settlement Strategy is ultimately subordinate to the REP, and as such its provisions will need to be addressed in any future rezoning processes that result from this document.

NSW Coastal Policy 1997

In addition to the EPIs identified above, the NSW Coastal Policy 1997 is a major State Government policy that is relevant to the "coastal zone", as defined by the policy. A large part of the Jervis Bay Region is subject to the Coastal Policy, which, amongst other things, contains principles for managing development in the coastal zone. The overarching theme of the policy is to ensure that development in the coastal zone is ecologically

sustainable. The policy has nine goals and a series of complementary and strategic actions. The policy is a Section 117 Direction under the *Environmental Planning & Assessment Act 1979*, which means that Council has to consider its provisions when preparing LEPs in the coastal zone. Of particular relevance to this Strategy is the requirement (Strategic Action 6.1.2) that local Councils prepare “urban land release/settlement strategies prior to major rezonings of rural land for urban expansion or will ensure that any such rezonings are consistent with endorsed regional settlement strategies” (NSW Government 1997).

NSW Coastal Protection Package

On the 26th June 2001 the NSW Premier, the Hon Robert Carr MP, announced a comprehensive review of planning and management practices for the NSW coastline. The NSW Coastal Protection Package - “drawing a line in the sand” - includes a range of initiatives to protect the State’s beaches and headlands for future generations.

The key elements of the package are:

- Comprehensive Coastal Assessment;
- Coastal Protection State Environmental Planning Policy No. 71;
- Coastal Water Quality Management Strategy;
- Extending and updating the Coastal Policy;
- Amendments to the Coastal Protection Act; and
- New Coastal Zone Management Manual.

The package will include other initiatives such as a review of the coastal land acquisition program, and enhanced consultation and participation roles for Aboriginal communities.

The Coastal Protection SEPP (No.71) was released by the Deputy Premier and then Minister for Planning, the Hon. Dr Andrew Refshauge MP, at Huskisson on 28 October 2002 and was subsequently gazetted on 1st November 2002. The SEPP seeks to ensure that development in the Coastal Zone is appropriate and suitably located, that there is a consistent and strategic approach to coastal planning and management, and that a clear development assessment framework is established. In addition, the SEPP gives legal weight to certain elements of the NSW Coastal Policy 1997 and

introduces matters for Councils to consider when preparing draft LEPs and determining development applications within the Coastal Zone.

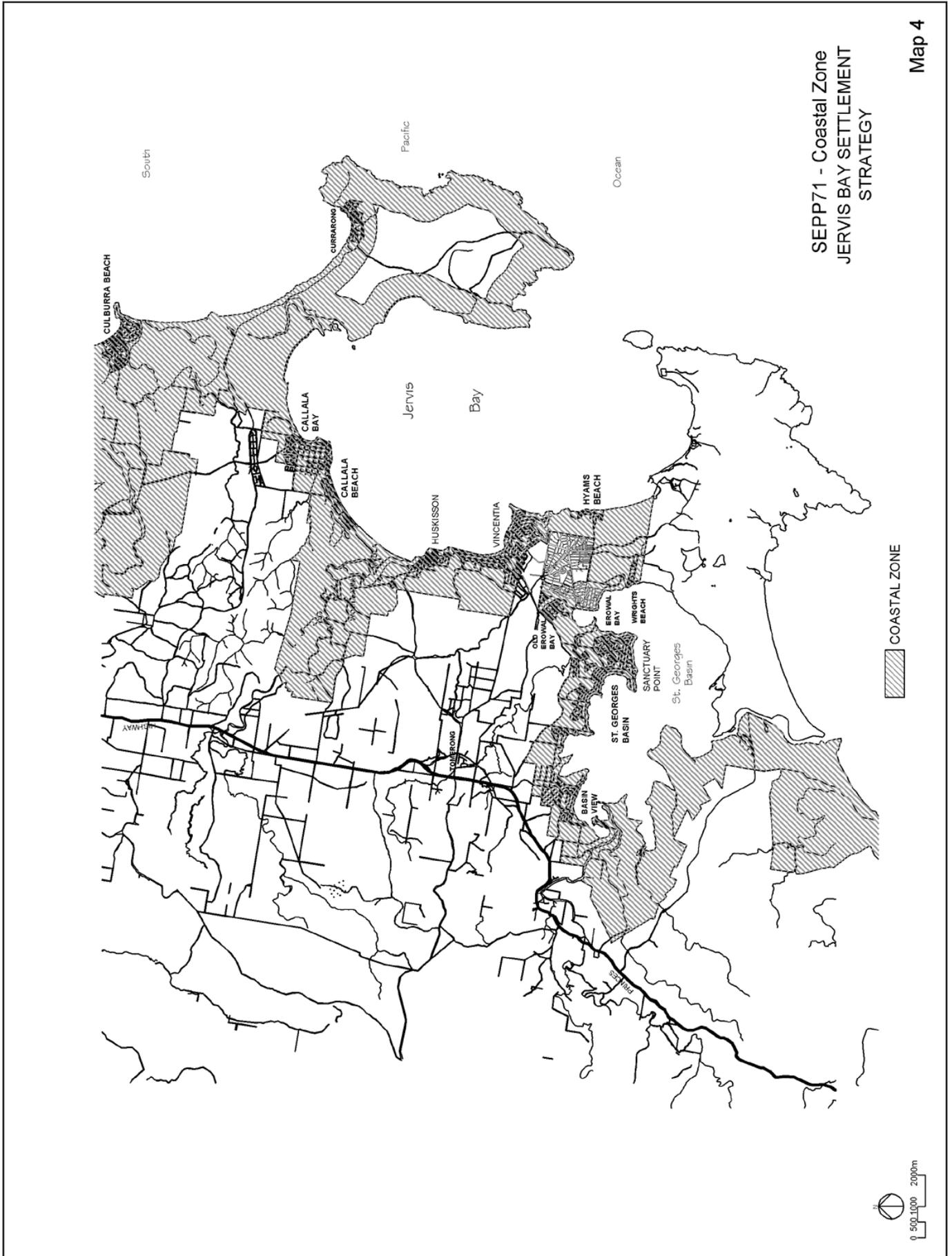
The SEPP applies to the “Coastal Zone” as defined by the Coastal Protection Act 1979, and makes the Minister the consent authority for certain developments. The extent of the Coastal Zone in the Jervis Bay Region is illustrated at see Map 4. The SEPP also defines “sensitive coastal locations” and requires that certain development applications received in these areas be referred to DIPNR for review and comment.

The SEPP is intended to be an interim measure until Regional Strategies prepared under the State Government’s PlanFIRST reforms are implemented, and the Comprehensive Coastal Assessment (CCA) for the NSW coastline is completed.

Coastal Design Guidelines

The Coastal Council of NSW has prepared “Coastal Design Guidelines for NSW”. These Guidelines are a part of the NSW Government’s Coastal Protection Package, focusing on the improvement of urban design in coastal areas, and ensuring that the character and environment of a place, including the social and economic context, are considered as part of coastal settlement planning. The Guidelines can be applied to a range of different situations to guide the detailed design of urban areas, and contribute to defining appropriate settlement types and developing specific place-based development controls.

Map 4 - Jervis Bay Region Coastal Zone (SEPP 71)



Jervis Bay Marine Park

The Jervis Bay Marine Park was declared by the NSW Government in January 1998, under the *Marine Parks Act 1997*. The Marine Park covers an area of approximately 22,000 hectares, and spans over 100 kilometres of coastline from Kinghorn Point in the north to Sussex Inlet in the south and extending approximately 1.5 kilometres seawards. It includes all of the waters of Jervis Bay to the mean high water mark and all of its creeks and tributaries upstream to the tidal limit, except for the area of Commonwealth waters in the southern part of the Bay.

The gazettal of a Marine Park does not establish tenure over the area declared, but creates another legislative layer over that area. The *Marine Parks Act 1997* requires the Marine Parks Authority (MPA) to prepare zoning and operational plans for the Marine Park. The Marine Park Zoning Plan for Jervis Bay was finalised during 2002, and at the preparation of this Strategy a draft Operational Plan has been exhibited. The zoning plan identifies the level of protection afforded to different areas within the Marine Park based on attributes such as significance, representativeness and habitat value. The zoning plan determines the commercial, recreational and other uses that may occur within the Marine Park by virtue of the consistency or otherwise between the intent of respective zoning and the environmental impacts associated with a particular use.

The *Marine Parks Act 1997* places the MPA in a concurrence role in relation to approval of development within the Marine Park (Section 19). Where development is proposed outside but within the locality of the Marine Park, and is considered likely to affect the plants or animals or their habitat within the Marine Park, the relevant authority must consult the MPA prior to making a decision (Section 20). This latter provision in particular has implications for future settlement and development within the catchment of the Marine Park.

Further detail on the JBMP is provided in Section 9.2.

Healthy Rivers Commission Independent Inquiry into Coastal Lakes (2002)

The NSW Government's Healthy Rivers Commission (HRC) Independent Inquiry Into Coastal Lakes released its Final Report in 2002. The report focuses

on strategies required to maintain and improve the health and management of coastal lakes in NSW. The report discusses the problems facing coastal lakes, and presents management approaches to protect them in terms of environmental and public health issues. The Final Report classifies each lake according to certain parameters, suggests detailed management strategies for each dependent on their classification, and recommends that a Sustainability Assessment and Management Plan be prepared and implemented for each coastal lake and its catchment.

Two coastal lakes in the Region were assessed during the Inquiry and are discussed in the Final Report: Lake Wollumboola and St Georges Basin. The following is a summary of the suggested provisions as outlined in the Final Report:

Lake Wollumboola

Classification: Comprehensive Protection

Intended Primary Outcome: Natural processes are to be restored and preserved.

Other Possible Outcomes: Water quality for drinking water supply protected; existing villages maintained within current boundaries of developed areas.

Indicative Actions: Limit any new urban and rural residential development to within the existing boundaries of developed areas; retain/progressively reinstate natural entrance behaviour; require any new assets to be located and designed in ways that do not necessitate opening lake entrance artificially.

St Georges Basin

Classification: Healthy Modified Condition (this is a provisional classification and a detailed assessment is required to confirm its classification).

Intended Primary Outcome: Key natural and/or highly valued modified ecosystem processes rehabilitated and retained.

Other Possible Outcomes: Urban/village/rural residential areas are maintained and/or expanded within defined limits.

Indicative Actions: Apply and enforce controls for new development to keep their impacts on lake/catchment health within sustainable limits,

progressively implement a program to rehabilitate natural riverine corridors etc.

At the preparation of this Strategy a Statement of Intent had been released by the NSW Government, outlining the first stage of implementation of the HRC Final Report. Relevant actions arising from the Statement of Intent as it relates to the Jervis Bay Region include:

- the reservation of the bed of Lake Wollumboola as an addition to the Jervis Bay National Park under the *National Parks and Wildlife Act 1974* (effected in December 2002); and
- the preparation of a Sustainability Assessment and Management for Lake Wollumboola.

The HRC will undertake an audit of the Government's Statement of Intent in 2005. Following completion of the first implementation stage, the Government will consider a further report from the HRC indicating options for applying the *Coastal Lakes Strategy* to other coastal lakes (including St Georges Basin) across NSW.

4.3 Local Plans

Shoalhaven Local Environmental Plan 1985

The Shoalhaven Local Environmental Plan (LEP) 1985 is the principal planning instrument for Shoalhaven, providing detailed controls on the use of land within the City, including the Jervis Bay Region. In particular, it provides for specific uses of land through zoning and other planning controls.

The majority of rural land within the Jervis Bay Region is zoned a mixture of Rural 1(d)(General Rural), Rural 1(f)(Forestry), and Rural 1(b)(Arterial Road). The existing rural residential areas at Woollamia - Falls Creek, Tomerong, and Basin View have a "deferred" status under the current LEP, which means that their zoning reverts back to the previous Rural Residential 1(c1), 1(c2) or 1(c3) zones under an earlier version of the LEP. This Settlement Strategy will provide a context within which the future of these areas is resolved (see further at Section 10.4).

The urban areas of the Region are zoned a mixture of Residential, Commercial, Industrial and Open Space. There are also substantial areas zoned for

Environment Protection in and around the coastal areas, and large parts of the Region are identified and mapped by the LEP as being "land of ecological sensitivity".

Cityplan

Cityplan was released by Council in June 2000 as a blueprint to guide the future direction of the City over the next 20-years and beyond. It identifies objectives and strategies that Council will use to realise its vision for the future, including:

- acknowledging the value and beauty of our environment by addressing the issue of its protection with a sensitive and balanced approach to accommodate population growth;
- protecting the natural beauty, built environment and heritage of the area whilst adopting a balanced approach to growth;
- towns and villages will thrive with a range of low visual impact, affordable and well-designed housing and meeting places where people feel they belong;
- opportunities for rural living will be made available where this is in keeping with the area's natural attributes; and
- through implementing of the Housing Strategy, Council will help ensure that there is a diversity of housing types to meet the needs of all ages and types of demand.

Council will pursue these objectives through, amongst other things, the preparation a City Settlement Strategy, City Conservation Strategy, and implementation of the Shoalhaven Housing Strategy.

Shoalhaven Housing Strategy

The Shoalhaven Housing Strategy was adopted by Council in July 2000, and was prepared to address concerns regarding the growing number of dual occupancy housing proposals on small lots, the pressure to support urban consolidation (discussed further in this Strategy at Section 10.3), and the need to ensure that suitable and affordable housing is provided to satisfy community needs. Whilst accepting the appropriateness of conventional housing, the Strategy seeks to increase awareness of the housing needs of diverse community groups and

housing choice. The Strategy is particularly focussed at identifying the needs of groups with special requirements in the community that are not currently being adequately provided-for, and contains a series of actions to help address these needs.

The Strategy stresses the importance of target groups (youth, aged, disabled, Aboriginal communities etc) being located in areas with good access to health, support, transport, retail and recreation services. Hence the focus of the Strategy is directed to the City's two main urban centres of Nowra/Bomaderry and Milton/Ulladulla.

However, the Housing Strategy contains a number of objectives and detailed provisions that are relevant to this Strategy. The most relevant objectives and actions in the Housing Strategy applicable to the Jervis Bay Region are:

Newly Formed Households

Supply of small dwellings: permit villas and integrated development on small portions of the larger Bay and Basin centres that are not affected by flooding; limit this to small parts of the built up area of these centres close to retail and community services.

Young Families

Accessibility of retail & community services: define a clear hierarchy of centres based on retail and community services available; redress service inadequacies in higher order centres; discourage increased population in villages of insufficient size to support basic services, particularly sewerage.

Supply of small dwellings: permit villas and integrated development on small portions of the larger Bay and Basin Centres.

Older Families

Appropriate Housing: encourage relocation to manageable housing by ensuring villas and integrated development is permissible in small and large centres.

Rapid Growth in Demand Anticipated: ensure sufficient appropriate housing is available close to required services.

The Aged

Aged People in Remote Locations: new purchasers in area to be advised of remoteness. Ensure appropriate alternative housing is available in close proximity to the services needed.

Ageing in Place: permit villas and integrated development in small portions of the larger Bay & Basin centres close to retail and community services.

General

Redevelopment Viability: within approximately 200 metres of retail and community centres of district status, areas of dwelling stock over 30 years old to be covered by planning controls designed to achieve viable redevelopment.

Land Supply: a program of land releases should be developed by Council and the take up monitored annually; land stocks at Culburra Beach/Orient Point should be reviewed as a priority; encourage development in areas most easily served with community facilities/services; consider restructuring Section 94 contributions for housing related development so they help encourage development in areas where community services/facilities can and will be provided in the shortest time.

4.4 Other Policies and Plans

Jervis Bay Integrated Management Program (NPWS 1999)

The Jervis Bay Integrated Management Program recognises that improved collaboration between the three levels of Government (Federal, State and Local) and the community will facilitate the identification of common goals and integrated management of the Region. At the preparation of this Strategy an Intergovernmental Coordinating Committee had been established, and is preparing guidelines which contain integrated management principles and potential implementation actions for the Region.

Currambene Creek Crown Land Assessment

A detailed land assessment for the bed of Currambene Creek and its foreshore reserves has been prepared in accordance with the Crown Lands Act 1989. The assessment contains detailed

management recommendations for the bed of the creek and the 30.48 metre (100 foot) riparian reservations that run along much of the creek's length.

Currambene Creek Catchment Management Plan (SCMC 2000)

Currambene Creek is one of the major tributaries of Jervis Bay. The former Shoalhaven Catchment Management Committee (SCMC) was concerned that the catchments on the south coast were experiencing a range of pressures from agricultural, industrial, recreational and residential uses that required a coordinated response. One of the SCMC's key goals was to "develop a concise statement of major issues and preferred management for each of the major land and water units (catchments) of the SCMC area". As a result, the Currambene Creek Catchment Management Plan (CMP) was prepared and released in 2000.

The CMP considers that large natural areas of Jervis Bay's catchment are at risk from the effects of increasing urbanisation, and concludes that the future of the Bay as a productive marine system requires improvements to the ways in which existing activities are managed. The CMP presents potential solutions, and recommends that improvements to the Bay and its catchment requires changes by all of those involved in managing land and water in the Region.

The following key points identified in CMP that are relevant to this Strategy, include:

- the water quality of the upper part of the estuary and the tributaries is of concern, particularly in times of low flow. Water quality is impacted by private septic systems;
- water quality in the lower reaches of the estuary is good with consistent and significant flushing from the Bay;

- management of the creek bank and riparian zone needs to change to improve the creek environment and health, particularly uncontrolled grazing needs to stop;
- there are significant wetlands along the creek - the majority of the Woollamia-Falls Creek rural residential areas are upstream of these wetlands and we need to work with owners to develop a voluntary code of practice for people living in the catchment to minimise impacts;
- the area is an important vegetation and fauna habitat which needs to be protected in future development proposals. The whole area should be managed to allow wildlife to coexist with the rural and rural residential uses.

The following specific management strategies are identified in the CMP:

Rural Residential

- monitoring of domestic on-site effluent
- develop database of potential rural pollution sources
- protect streams in rural residential areas

Rural Development

- monitoring of erosion controls
- greater rehabilitation of degraded lands

Creek Banks

- restrict creek access in subdivisions
- buffer zones along watercourses
- rehabilitation of creek banks at development stage

Woollamia Wetlands

- code of practice in catchment of wetlands
- resolve paper subdivisions
- preserve Swamp Mahogany forests

The CMP provides a wide range of other information and recommendations, which will be considered as part of the detailed assessment of areas identified in this Strategy for possible rezoning.

5. Application of Strategy

As indicated in the Introduction (see Section 1), this Strategy does not itself rezone or change the use of land within the Jervis Bay Region. It identifies broad areas for potential development in the future, and sets principles to guide settlement in the Region. The Strategy identifies land that may be capable of further development, and outlines the issues that will need to be addressed during the more detailed rezoning or development processes for each area under the *Environmental Planning & Assessment Act 1979* and other statutory frameworks.

Figure 2 illustrates how the Settlement Strategy will interact with the NSW planning system as it applies in the Region.

The Settlement Strategy is a non-statutory plan for the Jervis Bay Region that focuses on setting outcomes and goals. It compliments and builds on the planning outcomes that are contained in the Jervis Bay REP and other Environmental Planning Instruments (such as SEPP No.71); it does not however override the REP or other relevant statutory plans or responsibilities of Council or the NSW Government.

The Settlement Strategy will act as a benchmark for managing landuse change for residential development in the Region, and, in particular, for those landuse changes contemplated in the areas identified in the Strategy Principles Plan - Map 10. The Strategy presents a number of specific environmental, social and economic objectives and actions that will be pursued by Council and the NSW Government in the Region.

Sections 9 and 10 of the Settlement Strategy contain the broad “Objectives” and a wide range of “Actions” for managing land use change in the Region. These provisions need to be considered in a holistic manner, not read in isolation, as it may not be possible to comply literally with all the Actions to their fullest extent. The assessment of future land use proposals and their associated processes will need to weigh up the relevance of the particular Actions that may apply.

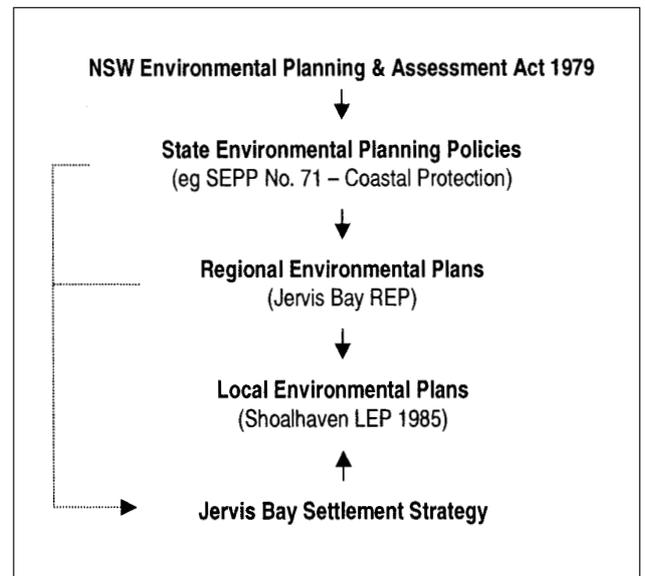


Figure 2 - NSW Planning System Hierarchy

It may be necessary and appropriate or desirable in some circumstances to depart from the Settlement Strategy’s specific benchmarks and outcomes in order to reach the best “whole of planning” outcome for a particular location or the Region as a whole. Any departure from the Strategy’s benchmarks will, however, involve a detailed and open assessment process, which will detail why the departure is considered necessary to contribute to the best planning outcome for the Region and why it does not undermine the vision and guiding principles contained in Sections 6 to 8 of the Strategy.

Whilst the Strategy is a non-statutory plan its adoption by Council and endorsement by the NSW Minister for Infrastructure and Planning will enable the areas identified in the Strategy Principles Plan (Map 10) to be investigated in detail, and possibly rezoned for development in the future. The preparation of the Strategy is also consistent with the NSW Coastal Policy requirement (Strategic Action 6.1.2) that Councils prepare urban land release/ settlement strategies prior to major rezoning of rural land for urban expansion and to ensure that any rezoning of land is consistent with such strategies.

Section B - Managing Growth

6. Vision

The vision presented for the Jervis Bay Region, and which will be pursued in implementing this Settlement Strategy, is as follows:

To maintain and enhance the marine, estuarine and natural resources by providing balanced future living and visiting opportunities which are environmentally, socially and economically sustainable.

There are a number of considerations that will influence future settlement in Jervis Bay. The resources necessary to use land in the Region are finite and need to be conserved, and there are a number of constraints in terms of biodiversity and natural resources. There are service constraints and limitations also, in terms of the provision of infrastructure (roads, water, sewer etc) and access to health and other community services.

As part of the settlement “Vision”, the Strategy Principles Plan (see Map 10 and associated detailed maps) illustrates the potential new settlement areas that will be the subject of detailed investigation in the future as set out in Sections 9 and 10 of the Strategy.

Underlying all of the considerations that will be relevant to planning new settlement in the Region are the principles of Ecologically Sustainable Development (ESD) and Total Catchment Management (TCM).

Figure 3 illustrates the interconnectedness of social, economic and environmental issues, and reinforces the need to understand and consider these relationships as they affect each other and not in isolation.

Ecologically Sustainable Development embodies the three concepts of:

- Environment;
- Social; and
- Economics.

All three are interrelated and have to be considered as such. The environment in which we live has to be treated carefully to ensure it is left in a good state for future generations. However for there to be future generations, we must have settlements in which to live - urban areas, rural residential subdivisions or houses scattered throughout the countryside. If we are going to live in an area, there must also be a market economy to sustain the living and recreation time that people will have. There is ultimately a need to find the right balance so that we can have a sustainable future, and can leave an intact environment for future generations.

The Jervis Bay Integrated Management Project (NPWS 1999) - recognises that improved collaboration between the three levels of Government (Federal, State and Local) and the community will facilitate the identification of common goals and integrated management of the Region.

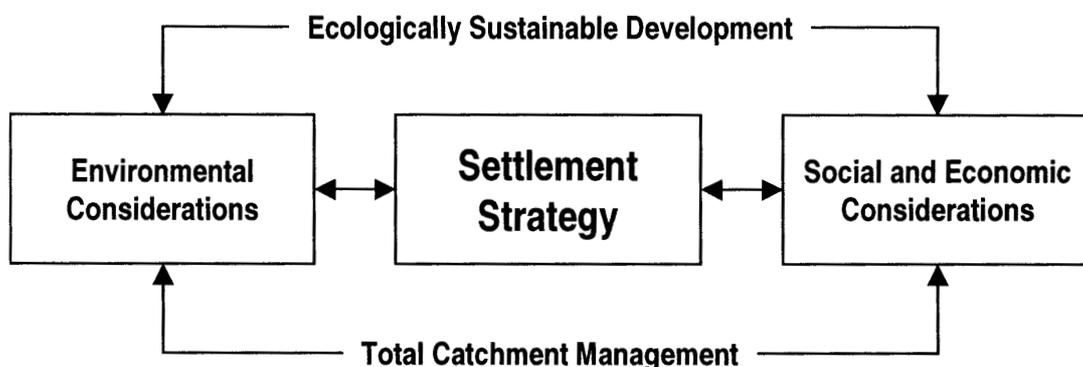


Figure 3 - Settlement Strategy Themes

7. Achieving the Vision

The vision identified in Section 6 will be achieved by implementing the principles of Ecologically Sustainable Development (ESD). Given the significance of the Jervis Bay Region these principles require consideration in identifying and resolving planning outcomes for the Region. It is also important that in working towards the vision the community is involved at the various processes along the way. As such, ongoing community consultation in the planning processes that will take place is seen as an important step to ensure that the vision is achieved.

The following detail is provided on these two important steps to achieving the vision:

7.1 Ecologically Sustainable Development (ESD)

Given the recognised conservation values of the Region and their importance to the State, Regional and Local economy, the principles of ESD will underscore decision-making and planning outcomes for the Region. The Strategy's vision will therefore be implemented in accordance with these principles, which incorporate the following components:

- (a) Precautionary principle: namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, decision-making should be guided by:

- (i) Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
 - (ii) An assessment of the risk-weighted consequences of various options
- (b) Intergenerational equity: namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

- (c) Conservation of biological diversity and ecological integrity: namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration.
- (d) Improved valuation, pricing and incentive mechanisms: namely, that environmental factors should be included in the valuation of assets and services.

Implementing the Strategy in line with the above principles is consistent with and reinforces the ESD objectives that are embodied in both the *Environmental Planning and Assessment Act 1979* and the *Local Government Act 1993*.

7.2 Community Consultation

As part of working towards the Strategy's vision, there will be a commitment to ongoing consultation with the community as part of the planning processes for new settlement within the Region.

Figure 4 illustrates how the community can be involved in the planning process. It shows that although there has already been substantial community involvement in the preparation of this Strategy (including the exhibition of the draft Strategy and a number of community workshops), there will be ongoing and further opportunities for involvement in the various planning processes that will follow in implementing the Strategy.

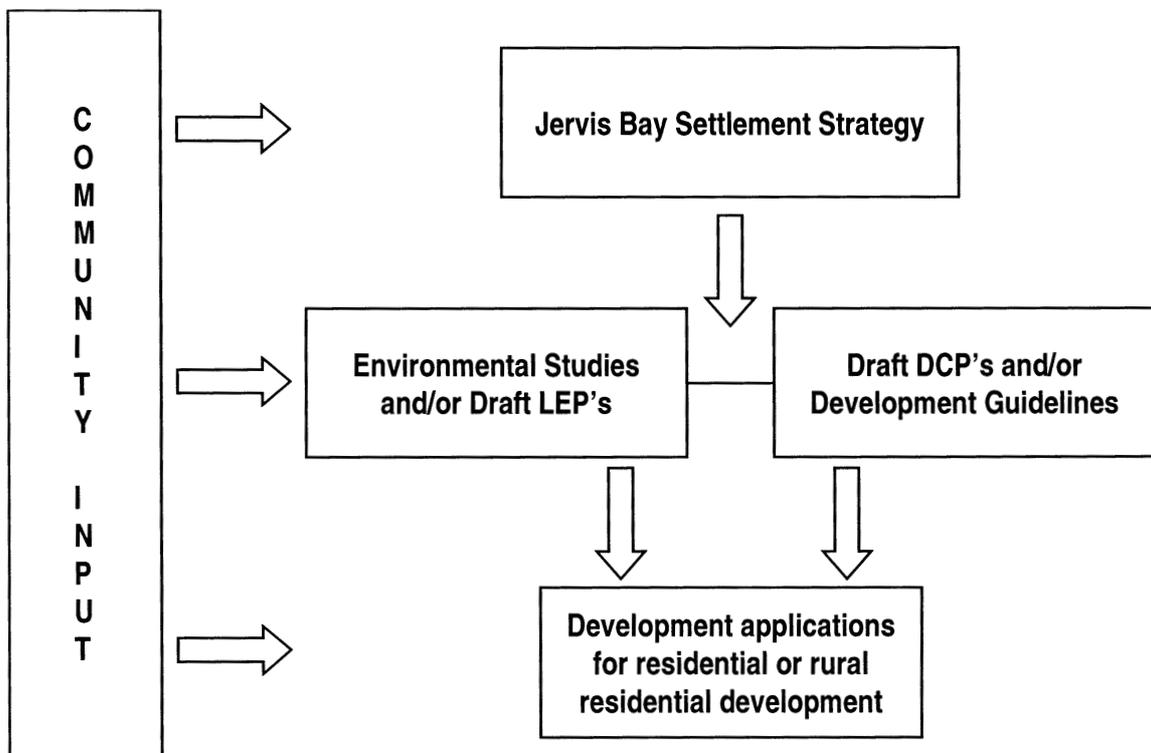


Figure 4 - Community Consultation Process

8. Growth Management Principles

8.1 Principles for Development

The implementation of this Strategy in planning further settlement for the Jervis Bay Region will be guided by a number of growth management principles. These principles are:

- Conservation of the Region's environmental qualities is a principal objective in the planning and management of the area;
- Future population growth should be sustainable, and the environmental, social and economic constraints to development should be assessed to determine how much growth can be accommodated in new areas. Issues to be assessed include:
 - Native vegetation
 - Threatened species
 - Proximity to water courses and bodies - identify buffers
 - Water quality controls
 - Flood liability
 - Bush fire risk/protection
 - Cultural heritage
 - Acid sulphate soils
 - Slope of the land
 - Provision of infrastructure
- Given the high level of biodiversity, future land use decisions must be supported by documentation which demonstrates a high level of scientific certainty, involving a comprehensive understanding of the biota and demonstrating the potential response to rezoning;
- Development should generally augment existing settlements and avoid the creation of new settlements;
- Development should provide a choice of living opportunities and types of settlement;
- No new rural residential areas should be established outside of areas identified for investigation in this Strategy;
- Given the environmental and social limits (ie infrastructure and services) to growth in the Region, there is a need to identify and investigate opportunities for infill development, urban renewal and consolidation within existing urban areas in the longer term;
- It will be essential to provide for the continued and improved social and economic well being of the whole community; and
- Protection of water quality in Jervis Bay, St Georges Basin and Lake Wollumboola is of fundamental importance.

Section C - Considerations & Actions

This Section of the Strategy identifies the detailed considerations that need to be addressed in relation to future settlement in the Region. It sets out the relevant objectives for managing environmental, social, and economic issues associated with settlement, and recommends a number of specific policy actions. The following Sections of the Strategy contain a series of Objectives, and a wide range of Actions relevant to future settlement in the Region. Further detail on how these Sections should be considered is discussed previously in Section 5 “Application of Strategy”.

The objectives and policy actions outlined in Sections 9 and 10 aim to achieve the vision presented for the Region, and provide greater detail to the Growth Management Principles that are outlined in Section B - Managing Growth. In particular, Sections 9 and 10 outline the considerations against which any future proposals detailed in the Strategy Principles Plan (see Map 10) will be assessed and evaluated. Consistent with this Strategy’s vision for the Region, Sections 9 and 10 are set out in the following order:

Section 9 - Environmental Opportunities and Constraints

- Water Quality & Flow
- Freshwater, Marine & Estuarine Biodiversity
- Land Based Biodiversity
- Soils
- Landscape
- Cultural Heritage
- Bush Fire
- Flooding
- Urban Stormwater Management
- Riparian Areas
- Economic Resources

Section 10 - Social and Economic Context

- Settlement Hierarchy
- Residential Development
- Urban Renewal
- Rural Residential Development
- Small Lot Rural Subdivisions
- Infrastructure Requirements
- Access
- Community Services and Facilities
- Economic Development & Tourism
- Timing, Staging and Monitoring

The actions indicate what has to be done to get there and who will be involved. Timeframes for implementation of the actions have also been presented as follows:

- short term: up to two years;
- medium term: two to five years; and
- long term: beyond five years.
- “ongoing” actions may already be under way or represent a policy outcome to be achieved in the short, medium and long term.

9. Environmental Opportunities and Constraints

The Jervis Bay Region contains a vast diversity of natural habitats and ecosystems. The Jervis Bay environment is central to the local and regional economy, and forms a basis for the character of existing settlements.

Natural resources in the Region need to be conserved so that present and future generations can continue to enjoy and use the Jervis Bay area. Managing settlement in the context of a Region with such significant environmental attributes presents a number of challenges.

Ecologically significant areas within the Region are shown in Maps 7 and 8.

The Region falls predominantly within three major water catchments, namely Jervis Bay, St Georges Basin, and Lake Wollumboola. Detailed assessment of all new development options identified in this Strategy will be required to ensure that settlement in the Region does not significantly or cumulatively impact in a negative way on these water bodies or their catchments.

The following Sections detail the important environmental considerations that need to be addressed before decisions are made regarding the future use of land in the Region.

9.1 Water Quality and Flow

There are three major water catchments that make up the study area - Lake Wollumboola, Jervis Bay, and St Georges Basin. These catchments themselves have some major creeks as well as minor tributaries. There are also small areas in the north of the Region that fall within the Shoalhaven River Catchment.

Map 5 shows the catchments within the Jervis Bay Region.

The Region contains a number of significant wetlands included in State Environmental Planning Policy No. 14 (see Map 7), which aims to ensure that coastal wetlands are preserved and protected.

Lake Wollumboola

The Lake Wollumboola catchment has an area of 35 square kilometres, and the Lake itself has a water body area of 6.2 square kilometres. The catchment contains four tributaries (Downs Creek, Coonemia Creek, Irrayadda Creek, Wollong Creek) and eight SEPP 14 wetlands.

Jervis Bay

The Jervis Bay catchment has an area of 410 square kilometres, and the Bay itself has a water body area of 102 square kilometres. The catchment contains six major sub-catchments (Currumbene Creek, Georges Creek, Moona Moona Creek, Bid Bid/Callala Creek, Wowly Gully, Cabbage Tree Creek/Carama Inlet) and twenty-four SEPP 14 wetlands.

St Georges Basin

The St. Georges Basin catchment has an area of 390 square kilometres, and the Basin itself has a water body area of 42 square kilometres. The catchment contains Tomerong Creek, Worrowing Waterway and two SEPP 14 wetlands (Source: DIPNR Internet Site www.dipnr.nsw.gov.au- Estuaries of NSW).

In identifying and assessing future settlement opportunities in the Region, it is important to recognise the link between major water catchments, and the areas they ultimately drain to - Jervis Bay, St Georges Basin and Lake Wollumboola.

Each of the three major water bodies in the Region

has different characteristics and this needs to be recognised. Jervis Bay is permanently open to the ocean and therefore is regularly flushed, whilst St Georges Basin is only open through a small inlet at Sussex Inlet. Lake Wollumboola is only flushed intermittently. This flushing regime has implications for the surrounding catchment land and its management, as well as the management of the waterways themselves.

Further detailed discussion on each of these catchments and the specific issues affecting them can be obtained from the *Lake Wollumboola Estuary Management Plan 2000*, *Currumbene Creek Catchment Management Plan 1999* and *St Georges Basin Estuary Management Plan 1998*. These documents list water quality as a major issue as well as the impact of human settlement on the water-bodies. Other issues include vegetation clearing and the protection of habitat.

It is important to recognise that human impacts on water quality and flow can in some cases be controlled by adequately protecting sensitive areas from development, and ensuring that appropriate effluent disposal, soil, water and nutrient controls are incorporated upfront into any proposal. Council's Urban Stormwater Management Plan has also recognised the need to address water quality issues arising from existing settlements in the Region.

The Jervis Bay REP makes provision for Catchment Protection. The plan provides objectives for protecting aquatic ecosystems, drinking water for livestock and recreation. Map 2 of the REP provides water quality standards for systems within the catchment, and any development proposal must show how water quality will be maintained or improved. Clauses 11(a)-(e) of the REP provides specific details in this regard.

WATER QUALITY AND FLOW

Objective - To ensure that the water quality and flow of waterways and their aquatic, marine and estuarine ecosystems is not detrimentally affected as a result of new settlement in the region

Actions

- i. All development will meet the statutory requirements of the Jervis Bay Regional Environmental Plan 1996 in respect of clause 11 - Catchment Protection.
- ii. New development will be located and designed so as to avoid detrimental impacts on waterbodies and watercourses, including groundwater. Where there are manageable impacts, erosion and sediment control measures and means to mitigate nutrient and other pollutants should be provided on the development site and be excluded from areas set aside for the protection of natural or cultural attributes (eg. riparian areas, habitat corridors, Aboriginal places/sites and so on).
- iii. New development will be designed so that domestic effluent management does not have a detrimental impact on water quality and flow, meets the Interim Environmental Objectives for the Jervis Bay Catchment (EPA, 1999), and is consistent with relevant State government guidelines.
- iv. New development, including infrastructure (eg stormwater controls), will be located, designed and constructed in a manner that does not degrade land based or aquatic ecosystems or processes.
- v. A set of catchment health indicators will be established, to supplement the Interim Environmental Objectives for the Jervis Bay Catchment (EPA 1999) and to assist monitoring and assessment of cumulative impacts of development on water quality and flow.
- vi. Infrastructure works will not have a detrimental impact on the water quality of receiving waters in the region. In order to achieve this outcome, best practice soil and water management will be implemented when constructing various infrastructure, and the number of artificial barriers to flow and impediments to movements of aquatic biota will be minimised.

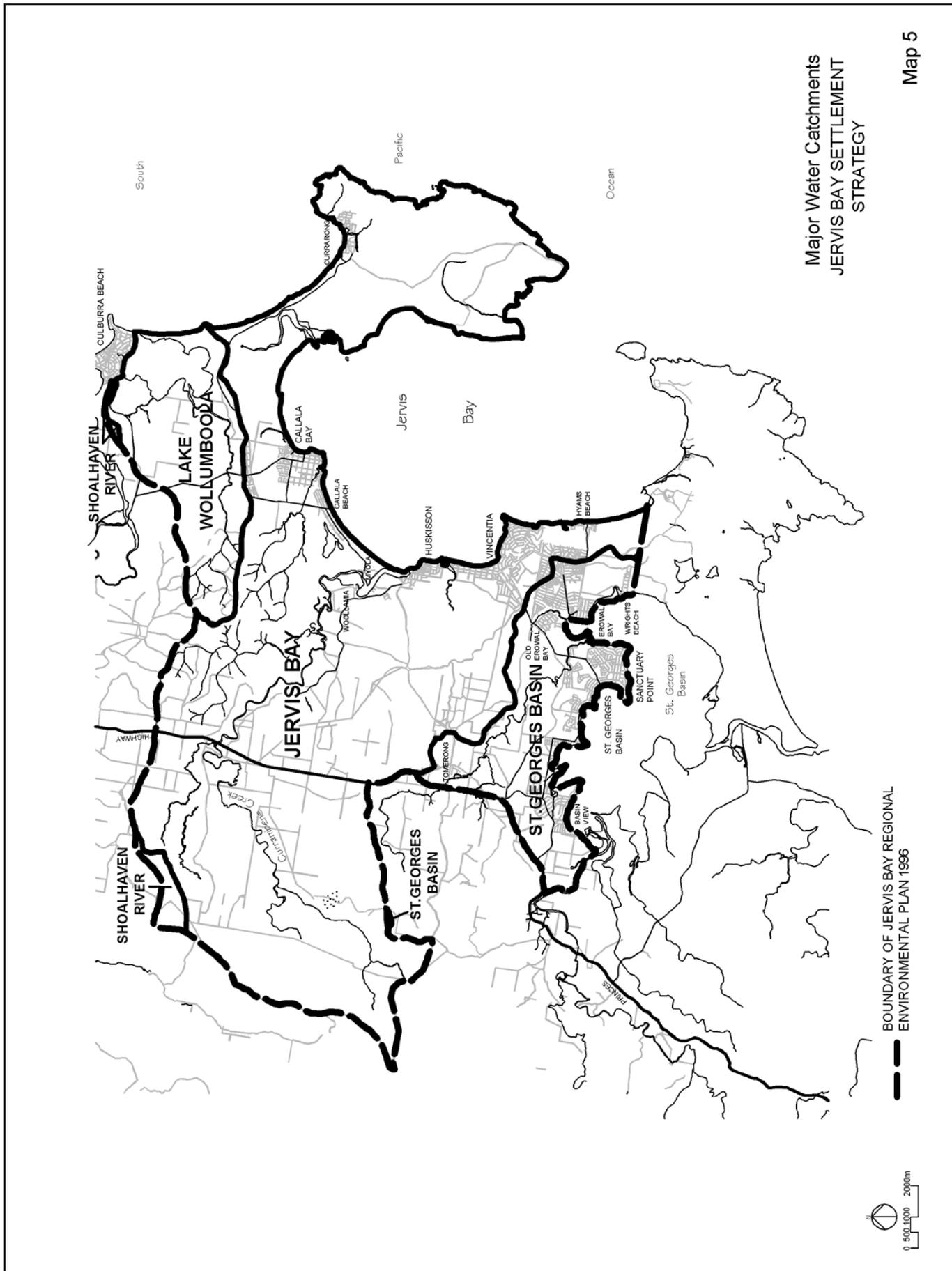
Implementation Responsibility

Council, DIPNR, and relevant state government agencies.

Timeframes for Actions

- i. Ongoing
- ii. Ongoing
- iii. Ongoing
- iv. Ongoing
- v. Medium Term
- vi. Ongoing

Map 5 - Major Water Catchments



9.2 Freshwater, Marine and Estuarine Biodiversity

The marine environment of Jervis Bay contains a number of habitats including “intertidal rock platforms, sub-tidal rocky reefs, deep water cliffs with caves, deep water sandy substrates, mangrove stands, extensive seagrass beds and a variety of soft bottom habitats” (Cho et al, 1995). These habitats support a range of marine fauna, molluscs, crustaceans, worms, fish and marine mammals. St Georges Basin, although not as large and open to the sea as Jervis Bay, also has a diverse ecosystem. The biodiversity of Jervis Bay and adjacent inshore areas to the north and south has been recognised by its identification as a Marine Park. Map 6 shows the Marine Park boundaries.

Jervis Bay has a relatively small but locally important commercial fishery. Its clean waters are also a significant tourist attraction, with recreational fishing, diving and other water based activities important contributors to the local and regional tourist industry and economy generally. St Georges Basin was closed to commercial fishing by the NSW Government on 1 May 2002, and is now one of 30 recreational fishing havens along the east coast of NSW.

Issues relating to the marine environment of Jervis Bay are outlined in the Jervis Bay Marine Park Planning Issues and Options Paper (Marine Parks Authority 1999), and include amongst others: catchment management, defence activities, fishing, aquaculture, recreational activities, coastal development, and introduced pests/diseases.

Of these issues, catchment management and coastal development pose potential risks to conserving marine biodiversity and maintaining ecological processes. The risks involved in this regard are:

- deterioration in water quality due to land clearing in the catchment and pollution from urban, agricultural and industrial runoff and waste;
- deterioration in and destruction of marine habitat due to new structures; and
- changes in natural processes such as wave action, water flow (tides, currents), natural erosion rates and so on due to structures.

These risks occur in association with settlement and as such need to be addressed as part of the Settlement Strategy.

Estuary Management Plans are an important component of the suite of mechanisms that manage biodiversity at the local level. The Lake Wollumboola and St Georges Basin Estuary Management Plans have been prepared and adopted by Shoalhaven City Council as policies for estuary management.

In addition, Council (in association with the NSW and Commonwealth Governments and residents of Currarong) has prepared a Natural Resources Management Strategy for Currarong Creek, Abrahams Bosom Creek, Plutus Creek and their catchments. The Currarong Natural Resources Management Strategy (SCC 2002) provides a comprehensive and integrated set of strategies to restore, protect and conserve the natural resources of Currarong’s waterways and their catchments so as to ensure that their use is ecologically sustainable in the long term.

Council has also resolved to incorporate the appropriate provisions of the St Georges Basin Estuary Management Plan (SCC 1998) into a Development Control Plan. This is seen as a way of providing some statutory strength to the Estuary Management Plan process. It is anticipated that this process could be followed with other Estuary Management Plans.

FRESHWATER, MARINE AND ESTUARINE BIODIVERSITY

Objective - To ensure that the potential impacts/hazards associated with new settlement are recognised, avoided and managed to prevent detrimental impacts on freshwater, marine and estuarine biodiversity values of the region.

Actions

- i. Freshwater, marine and estuarine attributes such as mangrove forests, salt marshes, sea grasses and other aquatic, marine or estuarine habitat will be protected from the impacts of new development in the region. In order to achieve this outcome, new settlement in the region will be assessed in accordance with relevant State Government and other policies for freshwater, marine and estuarine habitat management.
- ii. Significant populations of, and habitats for, threatened species, populations and ecological communities listed under the Fisheries Management Act 1994 (Schedules 4 & 5) will be conserved and managed under proposed planning instruments associated with new development.
- iii. New settlement in the region will seek to minimise and manage activities that can be defined as, or contribute to, key threatening processes listed in Schedule 6 of the Fisheries Management Act 1994.
- iv. Policies will be developed and implemented in order to reduce the impact of existing land based development on freshwater, marine and estuarine habitats.
- v. Public access to riparian, marine and estuarine areas may be provided if such access can be achieved without or with minimal disruption to freshwater, marine or estuarine biodiversity.
- vi. New proposals for public marine facilities or infrastructure will be located and designed to avoid unacceptable impacts on the marine and estuarine environment. New proposals should seek to address ongoing management of impacts that may occur and which, following detailed environmental investigation, are considered to be acceptable.
- vii. The provisions of Estuary Management Plans, and the Jervis Bay Marine Park Zoning and Operational Plans, will be incorporated into planning, management and development processes where relevant.

Implementation Responsibility

Council, DIPNR, and relevant state government agencies

Timeframe for Actions

- i. Ongoing
- ii. Ongoing
- iii. Ongoing
- iv. Medium term
- v. Ongoing
- vi. Ongoing
- vii. Short to medium term

9.3 Land Based Biodiversity

The Region's land-based biodiversity includes complex and diverse native vegetation communities, which provide a range of habitats for many species of animals and plants. The Region is acknowledged as a "hot spot" for threatened species, with over 40 threatened fauna species present in the area alone (Threatened Fauna of the Shoalhaven 2000). This number reflects the diversity and condition of habitat present in the Region, which has been described as "one of the major biogeographic nodes in Australia which contains a variety of relatively undisturbed marine and terrestrial habitats" (Cho et al, 1995).

Four major habitat corridors have been identified in the Jervis Bay REP. The three northern corridors are protected by specific clauses which aim to ensure the long term survival and biological diversity of native fauna and flora species in Jervis Bay. The southern corridor located to the north of St Georges Basin - Sanctuary Point is identified as "disturbed habitat and vegetation", and provision is made in the REP to retain and enhance this area. The four corridors are a major element of the Settlement Strategy and represent a general restriction to residential use of the land.

The REP and its background documents indicate that these corridors provide important links between private land, National Parks and other protected land in the Region. They allow flora and fauna to feed, breed, disperse, colonise or migrate to ensure the long-term viability of species. The corridors are considered essential to the survival of species in the National Parks surrounding Jervis Bay.

Although there is a wide range of threatened species (eg *Melaleuca biconvexa*, Eastern Bristlebird) in the Region which require conservation, consideration should also be given to preserving important habitats for species which are not listed or do not occur in National Parks' tenure.

The subsequent detailed investigation work and rezonings arising from the implementation of this Strategy should be consistent with the management recommendations of relevant Threatened Species Recovery Plans and other principles for conserving biodiversity in the Region.

LAND BASED BIODIVERSITY

Objective -To ensure that significant areas of land-based biodiversity, ecosystems and the function of natural processes are conserved and sustainably managed as a major contribution to the achievement of ecologically sustainable development.

Actions

- i. New settlement in the region will meet the statutory requirements of the Jervis Bay Regional Environmental Plan 1996 in respect of clause 14 (Habitat Corridors) and 15 (Disturbed Habitat and Vegetation). Landuse planning in the region should explicitly recognise the value of lands as habitat corridors and seek to maintain the structure and composition of native vegetation within these areas. In some critical areas, corridor values may be enhanced or improved by replanting and rehabilitation of cleared and/or disturbed areas.
- ii. New settlement will be located and designed so as to avoid detrimental impacts on land-based biodiversity. Disturbance to flora and fauna habitats by new or existing development will, as far as possible, be minimised, and any proposed clearing of vegetation will obtain the relevant approvals and be undertaken in accordance with relevant legislation, policies and best management practices.
- iii. Decisions regarding the location and design of new development in the region will recognise that the conservation of biodiversity is dependent on maintaining landscape connectivity through a native vegetation system of National Parks, habitat corridors established by the Jervis Bay REP, environment protection zones under the Shoalhaven LEP, and bushland on private land.
- iv. Significant populations of, and habitats for, threatened species, populations and ecological communities listed in Schedules 1 & 2 of the Threatened Species Conservation Act 1995 will be conserved and managed under proposed planning instruments associated with new development. A range of policy options to conserve biodiversity on private land will also be explored, including restrictive covenants, voluntary conservation agreements and so on.
- v. New settlement in the region will seek to minimise and manage activities that can be defined as, or contribute to, key threatening processes listed in Schedule 3 of the Threatened Species Conservation Act 1995.
- vi. Policy options to offset unavoidable impact(s) of new development on land-based biodiversity in the region will be explored. These options may include strategies for mitigation and compensatory habitat, and will be investigated at all levels of the planning system.
- vii. New settlement in the region will consider and, where-ever possible, seek to implement the recommendations arising from any relevant approved Regional Vegetation Management Plan prepared under the Native Vegetation Conservation Act 1997; and any relevant approved Recovery Plan or Threat Abatement Plan prepared under the Threatened Species Conservation Act 1995.
- viii. The habitat values, ecological and hydrological processes of wetlands will be conserved and managed so that the impact of development in the catchments of wetlands (SEPP 14 and others) is minimised.
- ix. Littoral rainforests in the region will be conserved and managed in accordance with SEPP 26.

- x. Remnant vegetation, particularly that which occurs outside protected areas, will be conserved and protected where-ever possible to maintain and increase natural species diversity. Decisions regarding new settlement in the region should therefore aim to improve the condition of existing native vegetation and encourage the revegetation and rehabilitation of land with appropriate vegetation management.
- xi. New settlement in the region will be encouraged to provide for biodiversity enhancements (or positive cumulative impacts), by incorporating requirements for, amongst others, weed control, habitat rehabilitation, and the use of local native species in landscaping.
- xii. Locally significant habitat corridors not identified by the Jervis Bay REP will be addressed at all levels of the planning system, to protect locally significant biodiversity values.

Implementation Responsibility

Council, DIPNR, and relevant state government agencies

Timeframe for Actions

All actions Ongoing

9.4 Soils

The lithology of the study area can be broadly categorised into sand, clay/silt, siltstone and sandstone. The sands are located around Jervis Bay and St Georges Basin, with the clay/silt areas concentrated largely around the creeks. The siltstone is located from Jervis Bay east to approximately the Princes Highway. The sandstone is located to the west of the siltstone, and on the Beecroft and Bherwerre Peninsulas to Vincentia.

The maintenance of soil is a major consideration, and it is important to address the impacts of land degradation (especially soil erosion) when managing and or developing land. Soil erosion and sedimentation are issues that generally become more difficult to manage as land uses are intensified. It is also an issue on steeply sloping land, and during the construction of dwellings.

In addition, the impacts of soil erosion are more problematic in landscapes with dispersive clay soils, as the clays stay suspended in water for longer periods and cannot be trapped by conventional sediment controls. The management of suspended soils is particularly difficult where waterbodies have a limited flushing regime (for example Lake Wollumboola and St Georges Basin). It is important that the nature and characteristics of soils, the risks associated with soil erosion and sedimentation, and the likely success or otherwise of management controls that are proposed in connection with new development are understood and addressed at all stages of the planning process.

Potential Acid Sulphate Soils

Potential Acid Sulphate Soils are also known to occur in parts of the Region. The State Government has mapped the occurrence of potential Acid Sulphate Soils along the NSW coastline, and identified areas of high and low probability of occurrence as well as areas of no known occurrence.

On the basis of this mapping, Potential Acid Sulphate Soils occurrence in the Region is as follows:

High Probability Underwater

- Lake Wollumboola;
- Coonemia Creek;

- Wowly Gully;
- Currumbene Creek;
- Moona Moona Creek; and
- St Georges Basin.

High Probability 1 - 3 metres below land surface

- Downs Creek;
- Coonemia Creek;
- Wowly Gully;
- Bid Bid Creek wetland;
- Callala Creek wetland;
- Currumbene Creek, lower reaches banks and vicinity;
- Georges Creek, lower reaches banks and vicinity;
- Moona Moona Creek, banks and vicinity; and
- Creeks and drainage lines leading to Home Bay and Pats Bay, St Georges Basin banks and vicinity.

Low Probability 1 - 3 metres below land surface (note: these generally occur surrounding the high probability areas)

- West of Lake Wollumboola near Downs Creek;
- Coonemia Creek;
- Wetland north of Callala Bay;
- Black Swamp to Myola and Callala Beach;
- Currumbene Creek wetlands and vicinity;
- Moona Moona Creek wetland;
- North shore of Home Bay; and
- West of creek to Pats Bay.

Land affected by the classes of Potential Acid Sulphate Soil listed above should not be developed for new urban or rural residential development and should be excluded from this Strategy. However existing situations will be treated on their individual merits.

SOILS

Objective - To ensure that soil characteristics, including potential acid sulphate soils, are identified and addressed in assessing the sustainability of new settlement in the region.

Actions

- i. The calculation of development density will only be made following an assessment of soil attributes of the land, and some lands may be totally excluded from development on the basis of their soil attributes.
- ii. Areas of potential acid sulphate soils will be identified and excluded from new development areas in the region. Assessment and management of acid sulphate soils issues will be undertaken in accordance with the NSW Acid Sulphate Soils Manual.
- iii. Areas of potential acid sulphate soils will be identified and excluded, where possible, when considering the location and construction of infrastructure to serve settlements.
- iv. Ameliorative measures will be undertaken for minor disturbances of potential acid sulphate soils in association with existing development/subdivision patterns.

Implementation Responsibility

Council, DIPNR and relevant state government agencies

Timeframe for Actions

- i. Ongoing
- ii. Ongoing
- iii. Ongoing
- iv. Ongoing

9.5 Landscape

The topography of the Region is diverse. It ranges from steep land with incised valleys in the west and around the Beecroft Peninsular and Bherwerre Peninsular to Vincentia. The coastal area is low lying to gently undulating. High points are located at Tomerong and in the Tomerong State Forest.

The topography of Jervis Bay is an important environmental resource as it provides for a variety of habitats; allows for the area to have a diverse drainage system; and characterises the visual landscape in the Region. Landscape issues must be addressed when considering settlement areas, as further development can lead to land degradation, drainage and water turbidity issues, and affect the Region's visual character and amenity.

The landscape character of Jervis Bay is spectacular and diverse, and is broadly made up of the following elements:

- bays;
- beaches;
- basins;
- estuaries;
- wetlands;
- steep cliffs;
- rugged hills;
- gently sloping land;
- heaths; and
- woodlands and forests

The Jervis Bay landscape characterises the scenic qualities of the Region and contributes significantly to its tourism value. It is the juxtaposition of vast natural areas and the existing development pattern (towns and villages) that creates the particular landscape character of the Region, and make it a popular place to live, work, and visit. There is a need to ensure that further settlement does not have an adverse impact on the landscape character of the area and to ensure that any impacts are appropriately assessed and mitigated.

The Jervis Bay REP recognises landscape quality as an important component of the Region. The REP includes provisions to ensure that development proposals preserve and respect landscape quality.

The Jervis Bay landscape is also listed on the Register of the National Estate, which attests to its importance and need for its conservation. Council has included the Jervis Bay landscape in its draft Heritage LEP/DCP. The draft DCP provides detailed guidelines for siting development in the landscape, and, in particular, indicates that development should not dominate its location and avoid headlands, creek banks, wetlands and foredunes.

In addition, the NSW Coastal Policy provides a series of objectives and strategic actions which are directed towards an ecologically sustainable coastline. The natural environment and landscape quality are major components of the policy's direction. As discussed in Section 4 of this Strategy, the Coastal Council of NSW has prepared Design Guidelines for the NSW Coast that provide further direction on the management of coastal landscapes in this regard.

LANDSCAPE

Objective - To ensure that the significant landscape character of the region is recognised and conserved, and that new settlement does not have a detrimental impact on natural areas or processes.

Actions

- i. New settlement in the region will meet the statutory requirements of the Jervis Bay Regional Environmental Plan 1996 in respect of clause 12 - Landscape Quality and where-ever possible, landscape values should not be compromised by new development in the region.
- ii. New subdivision and housing will be designed in sympathy with the landscape features of the locality. In order to achieve this outcome, design guidelines will be prepared as part of new development proposals in the region.
- iii. Important visual aspects of the landscape will be identified and conserved, including the aesthetic quality of the coastal landscape.
- iv. Changes to planning controls which facilitate new residential development on undeveloped coastal dune areas will be avoided, and the impact of development on coastal foreshores should be minimised, in accordance with the NSW Coastal Policy.
- v. New settlement in the region should seek to avoid land liable to be unstable or prone to high or extreme erosion.

Implementation Responsibility

Council, DIPNR, and relevant state government agencies

Timeframe for Actions

- i. Ongoing
- ii. Ongoing
- iii. Short to Medium Term
- iv. Ongoing
- v. Ongoing
- vi. Ongoing

9.6 Cultural Heritage

There are many areas and sites of heritage significance to both the Aboriginal and European occupation of land throughout the Jervis Bay Region.

Aboriginal connection with the Region dates back at least 6,000 years and, at the preparation of this Strategy, over 300 Aboriginal archaeological sites are listed in the NPWS Aboriginal Archaeological Sites Register for the Region. Excavated rock shelters, art sites and middens have provided valuable information about Aboriginal habitation, and the Region remains a place of historical and spiritual significance to Aboriginal people.

Predictive modelling to determine potential archaeological sites such as campsites or rock shelters is a useful planning tool. Modelling can identify at a broad scale the sensitivity of certain land forms that may contain certain site types. Areas of high significance will need to be addressed early in any new development proposals.

Aboriginal people maintain strong interests in the management of the land and waters of the Jervis Bay Region. The Jervis Bay National Park has been identified for potential hand back to traditional owners, to be jointly managed with NPWS.

European settlement of the area began in the early 1800s and there are some significant buildings and sites remaining. There are also some maritime sites that have archaeological significance, including numerous shipwrecks.

Council has prepared a citywide Heritage Study, and exhibited a draft Heritage LEP and an accompanying draft Heritage DCP. The draft LEP lists some 800 items of environmental heritage, with a significant number in the Jervis Bay Region.

The draft DCP provides supplementary guidelines and nominates a major section of the immediate landform around Jervis Bay as a Heritage Conservation Area - natural landscape. An urban Heritage Conservation Area has also been nominated for Huskisson.

Cultural heritage is currently protected by a broad range of State and Federal legislation. However, significant sites and areas should be identified and, where necessary, excluded from or protected in any future development.

The Jervis Bay REP contains specific requirements in relation to Aboriginal and European cultural heritage. These provisions are contained in clause 13 and require detailed consideration in sensitive locations nominated within the plan.

CULTURAL HERITAGE

Objective -To ensure that significant natural and cultural heritage values of the Region are recognised, conserved and managed.

Actions

- i. All development will meet the statutory requirements of the Jervis Bay Regional Environmental Plan 1996 in respect of clause 13 - Cultural Heritage.
- ii. The Aboriginal and European heritage significance of the landscape will be recognised and assessed prior to new development proposals in the region. In particular, Aboriginal cultural heritage will be recognised as a living culture, with Aboriginal people having strong interests in the management of the land and waters of the Jervis Bay region. Archaeological assessment and survey, and the input of the Aboriginal people of Jervis Bay will be essential as part of investigations into new settlement in the region.
- iii. Funding will be sought to prepare a predictive model and/or sensitivity mapping for Aboriginal sites/ places for the Jervis Bay region in order to provide an indication of areas that will require detailed assessment.
- iv. Significant cultural heritage places, items and landscapes will be conserved and managed, and not detrimentally affected by new development in the region. Consultation with the Aboriginal people of the Jervis Bay region will be undertaken early in the planning of new settlement in the region. This consultation is particularly important in relation to the traditional significance of landscape features, as these are often not reflected in site registers and databases.
- v. New settlement in the region will be carried out in sympathy with the landscape and heritage character of the region.

Implementation Responsibility

Council, DIPNR, and relevant state government agencies

Timeframe for Action

- i. Ongoing
- ii. Ongoing
- iii. Medium Term
- iv. Ongoing
- v. Ongoing

9.7 Bushfire

Bushfire is one of the main natural hazards affecting the Jervis Bay Region, with large areas identified as being bushfire prone. In late 2001-early 2002, the Region was substantially affected by a major bush fire that ultimately burned approximately 100,700 hectares, and threatened and destroyed properties in Huskisson, Tomerong, Woollamia, Vincentia and Falls Creek.

Bushfire prone land is defined in the *Environmental Planning & Assessment Act 1979* as “land recorded for the time being as bushfire prone land on a bush fire prone land map for the area”. Council has prepared a map of bushfire prone land in accordance with legislative requirements, including guidelines issued by the NSW Rural Fire Service (RFS), which has been certified by the RFS Commissioner. Certain types of development on land identified as bushfire prone must comply with the provisions of the guideline *Planning for Bushfire Protection (2001)*, prepared by the RFS and PlanningNSW.

Under Council’s bushfire prone land map the majority of the Jervis Bay Region, including parts of existing urban areas, is identified as being bushfire prone. Where the rezoning of bushfire prone land for residential or rural residential use is proposed, the provisions of Section 117 (2) Direction G20 - Planning for Bushfire Protection must be addressed. Section 117 Directions are Ministerial Directions under the *Environmental Planning & Assessment Act 1979* that outline issues to be addressed in the preparation of draft LEPs.

Section 117(2) Direction G20 specifies that in the preparation of draft LEPs, Councils must:

- consult with the RFS under Section 62 of the *Environmental Planning & Assessment Act 1979*, and take into account comments made;
- have regard to *Planning for Bushfire Protection 2001*; and
- where development is proposed, comply with the following provisions, as appropriate:
 - provide an Asset Protection Zone (APZ) incorporating an Inner Protection Area bounded by a perimeter road or reserve within

the property and an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road;

- for infill development (development in an already subdivided area) where an appropriate APZ cannot be achieved, provide for an appropriate performance standard in consultation with the RFS;
- contain provisions for two-way access roads that link to perimeter roads and/or fire trails;
- contain provisions for adequate water supply for fire fighting purposes.
- minimise the perimeter of the area of land interfacing with the hazard that may be developed;
- introduce controls that avoid placing developments in hazardous areas;
- introduce controls in the placement of combustible materials in the Inner Protection Area; and
- ensure that bushfire hazard reduction is not prohibited within the APZ.

If a draft LEP affecting bushfire prone land does not comply with the above provisions Council must obtain written advice from the RFS that it does not object to the draft LEP proceeding.

Finally, the Shoalhaven Bushfire Risk Management Plan (2000) maps the entire LGA according to assets to be considered and protected. Any changes to the boundaries of existing settlements, population densities, or the perceived value of assets over time as a result of this Strategy will require reassessment of the “Threat” and “Risk” maps contained within the Bushfire Risk Management Plan.

BUSHFIRE

Objective - To ensure that settlements are protected from bushfire risk.

Actions

- i. Appropriate Asset Protection Zones (APZ), will be incorporated into planning instruments associated with new settlement in the Region, in accordance with the requirements of Section 117 (2) Direction G20 - Planning for Bushfire Protection.
- ii. Asset Protection zones associated with new development will be contained within the developable area, and will be excluded from areas set aside for the protection of natural or cultural attributes (eg. riparian areas, habitat corridors, Aboriginal places/sites and so on).
- iii. New settlement will be planned to include bushfire risk management measures that are relative to the associated fire risk in the locality.
- iv. The implementation of bushfire risk management measures associated with new settlement will comply with relevant assessment requirements and policies such as the EP&A Act, Rural Fires Act and the guideline Planning for Bushfire Protection (2001).

Implementation Responsibility

Council, NSW Rural Fire Service, and DIPNR

Timeframe for Actions

- i. Short term & ongoing
- ii. Ongoing
- iii. Ongoing
- iv. Ongoing

9.8 Flooding

Flooding associated with the main creek systems of Jervis Bay - Currumbene Creek and Moona Moona Creek - is not yet well understood. Council is in the process of initiating Flood Studies to define the nature or extent of flooding for the Currumbene and Moona Moona Creek catchments, however, present understanding of flood behaviour in the Region is limited to observations of floods in recent history. For example, the village of Woollamia is within the floodplain and Woollamia Road has been observed to be cut in times of frequent flood.

Areas adjoining St Georges Basin are also affected by flooding including some of the residential areas of Sanctuary Point, St Georges Basin and Basin View. Council is currently finalising a Floodplain Management Study/Plan for St Georges Basin, which will identify the flooding issues in this area and address their future management.

Council has adopted the 1% Annual Exceedence Probability (AEP) or 1 in 100 year flood as the current design flood for the area, and the flood studies being prepared will establish appropriate Flood Planning Levels (FPL) for the Region in the future.

The Probable Maximum Flood (PMF) also requires consideration particularly for matters associated with flood hazards and risks to human life. New settlement in the Region will need to be planned so that consideration is given to the full range of potential floods up to and including the PMF, consistent with the Floodplain Management Manual (2001).

At the preparation of this Strategy, Council has commenced a review of the various flooding provisions contained in Shoalhaven LEP 1985 and the preparation of a Floodplain Management DCP. The purpose of this review is to ensure consistency of Council's local planning instruments with the provisions of the Floodplain Management Manual 2001, and to ensure that development in areas potentially affected by flooding is appropriately assessed.

It is not proposed to rezone land below the flood planning level for new residential development. New flood studies will assist in identifying the nature and extent of flooding in the Region and the hazards they

present. Flooding issues associated with new development in the Region will be assessed in accordance with relevant policies and requirements of planning legislation such as the EP&A Act (1979), Section 117(2) direction- G25 Flood Liable Land, and the Floodplain Management Manual (2001).

FLOODING

Objective -To identify and acknowledge flooding of land as a constraint to future development.

Actions

- i. Floodplain Management Studies and/or Plans will be prepared and implemented in accordance with the NSW Floodplain Management Manual (2001) for areas that are likely to be affected by flooding.
- ii. Land within the Flood Planning Area (1% AEP) will not be rezoned to provide for residential development. The zoning of existing urban areas will be reviewed in accordance with relevant Floodplain Management Studies, and development in new and existing areas will be compatible with the level of flood hazard over a whole range of flood events, up to and including the PMF (as such, development should not be located in areas that are considered to constitute a high hazard to life and property in time of flood).
- iii. Necessary changes to Council's statutory planning controls, policies and environmental plans etc., will be made as per the directions given in the NSW Floodplain Management Manual (2001), and the outcomes of relevant Floodplain Management Plans.

Implementation Responsibility

Council and DIPNR

Timeframes for Action

- i. Ongoing
- ii. Short to medium term
- iii. Ongoing

9.9 Urban Stormwater Management

Council has prepared an Urban Stormwater Management Plan that provides for the management of stormwater within a catchment or subcatchment. The primary aim of the plan is to "... facilitate the coordinated management of stormwater within a catchment to achieve ecological sustainability and to achieve social and economic benefits from sound stormwater management practices."

The Urban Stormwater Management Plan contains long and short term objectives, advocates a series of non-structural and structural measures, and importantly provides performance measures. During the preparation of the Urban Stormwater Management Plan the community identified the following concerns in the major catchments of the Jervis Bay Region: litter, organics, faecal pollution, leachate, sediment, erosion, inadequate building controls, noxious weeds, hydrocarbons, graded road shoulders, unsealed roads and nutrients.

The actions identified within the Urban Stormwater Management Plan contain a series of recommended measures over a five year period, including: signage, better maintenance, alternate management practices, bush regeneration, bank stabilisation, education initiatives, sediment traps and others. Financial constraints are a problem in implementing the recommendations contained in the plan, however implementation is proceeding as funding is made available.

While the Urban Stormwater Management Plan attempts to deal with stormwater issues arising from existing settlements, it is essential that the demand for remedial works is not exacerbated by new development in the Region. It will therefore be essential to provide best management practices for stormwater management for any new settlement areas that proceed in accordance with this Strategy.

URBAN STORMWATER MANAGEMENT

Objective - To ensure the protection of life and property and water quality, by providing best practice stormwater management in new and existing development in the region.

Actions

- i. A hierarchy of sizes and types of stormwater infrastructure will be provided. This infrastructure should, as far as practicable, be contained within the developable area and excluded from areas set aside for the protection of environmental and cultural attributes (eg. riparian areas, habitat corridors etc).
- ii. Stormwater infrastructure associated with new development in the region should be designed and constructed in a manner that does not degrade existing natural land-based or aquatic ecosystems or processes. Wherever possible, stormwater should be treated as close to the source as possible prior to any proposed discharges to natural systems.
- iii. Monitoring programs to investigate and assess the effectiveness of stormwater controls will be considered and, where appropriate, implemented in association with new development in the region. A community education campaign targeted at improving attitudes and practices in relation to stormwater will also be developed and implemented as per the Shoalhaven Urban Stormwater Management Plan.
- iv. The provisions of the Shoalhaven Urban Stormwater Management Plan will be incorporated into relevant planning instruments, works and development processes.

Implementation Responsibility

Council, DIPNR, EPA and relevant State Government Agencies

Timeframe for Actions

- i. Ongoing
- ii. Ongoing
- iii. Short to medium term and ongoing
- iv. Short term and ongoing

9.10 Riparian Areas

As outlined in Section 9.1, there are a number of water bodies and watercourses throughout the Region. Riparian areas serve a wide range of functions in the landscape, including bank protection, stabilisation and water quality protection, and it is important that they are appropriately protected and managed, and, if necessary, rehabilitated.

The *Rivers & Foreshores Improvement Act 1948* currently requires that a permit be obtained from the Department of Infrastructure, Planning and Natural Resources if there is to be any excavation of material within 40 metres of the bed or bank of any defined watercourse. New settlement in the Region will need to identify riparian characteristics and determine appropriate riparian buffer widths in a given locality. There may also be the ability to rehabilitate and revegetate riparian areas in association with future development.

RIPARIAN AREAS

Objective - To ensure that riparian areas are conserved and sustainably managed, in order to provide for natural ecological and hydrological processes and to avoid detrimental impacts on habitat values and water bodies immediately adjoining and downstream.

Actions

- i. The design and location of new development in the region (including infrastructure) will seek to protect riparian habitat values and their ecological and hydrological function (including flood risk reduction) in the landscape.
- ii. Riparian areas will be identified in future planning instruments affecting Jervis Bay, St Georges Basin and their associated watercourses to provide a degree of certainty for future development and landuse changes in the region.
- iii. Riparian areas will be protected from ancillary detrimental uses (eg. clearing/underscrubbing) that undermine habitat values and their ecological and hydrological function in the landscape. Planning instruments should also seek to encourage the rehabilitation and repair of areas subject to detrimental impacts caused by past landuse practices.
- iv. Policies for providing incentives to conserve and enhance riparian corridors throughout the Region will be investigated as part of this Strategy.

Implementation Responsibilities

Council, DIPNR, and relevant State Government Agencies

Timeframe for Actions

- i. Ongoing
- ii. Ongoing
- iii. Ongoing
- iv. Short to medium term

9.11 Economic Resources

There are certain primary resources and industries in the Jervis Bay Region, including extractive resources, timber resources, and agricultural land. It will be essential to ensure that the interaction between future settlement and these land uses is appropriately managed.

Extractive Resources

The Shoalhaven LEP 1985, as amended by the Rural Plan 1999, identifies three extractive resources within the Region, which are protected by appropriate zones and nominated buffers to restrict the use of land in order to maintain the resource. The three resources are acknowledged as being significant, and are included in the Section 117 Direction - G28 Extractive Industries under the NSW *Environmental Planning & Assessment Act* 1979. The three resources are as follows:

Comberton Grange: Comberton Grange is a regionally significant hard rock (sandstone/dolerite) resource on the northern side of Currumbene Creek. The quarry forms part of the Comberton Grange property owned by Council, and is discussed in detail in Section 10.9 of this Strategy. Council operates the quarry with approximately 35,000 tonnes of material extracted per annum, and an expected remaining life of approximately sixty years. As this resource is regionally significant, it has been zoned Rural 1(e)(Extractive and Mineral Resources) and is surrounded by a 1,000-metre buffer. Any future development of the Comberton Grange property would thus be restricted to areas outside of the nominated buffer.

Hell Hole: Hell Hole is a hard rock (sandstone) quarry which is located in the western part of the Region to the north of Turpentine Road. The quarry is zoned Rural 1(d)(General Rural) and is surrounded by a 600 metre buffer.

Parnell Road: Parnell Road is a shale quarry which is located to the north of the Sanctuary Point-St Georges Basin urban area. The quarry is zoned Rural 1(d)(General Rural) and is surrounded by a 600 metre buffer.

There are smaller extractive industries in the Region other than the three specifically nominated above and protected under the Shoalhaven LEP 1985.

Timber Resources

Map 8 illustrates areas of State Forest within the Region, specifically: Nowra, Currumbene, Tomerong and Yerrilyong. These areas were largely unaffected by the dedication of new conservation reserves through the *National Parks Estate (Southern Region Reservations) Act* 2000, except for part of Yerrilyong State Forest which was added to the new Parma Creek Nature Reserve.

Under the Commonwealth and State Government's Southern Regional Forest Agreement (RFA), public forested land tenure, including State Forests, was fixed and confirmed in legislation. Whilst areas of State Forest tenure in the Region are identified in the Jervis Bay REP as being "habitat corridor", the RFA timber harvesting provisions are considered compatible with the strategic objectives of the REP.

As part of the Northern Shoalhaven Reclaimed Water Management Scheme (REMS) a trial tree plantation will be established on Council owned land to the north of the Comberton Grange property. The plantation will be irrigated with treated effluent from the scheme.

Agricultural Land

There are relatively small areas of prime crop and pasture land (class 3) in the Region, located in areas adjoining Currumbene Creek and to the west of Old Erowal Bay (Erowal Farm/Worwong). These areas are not very extensive and the extent of agricultural use is currently low. As part of the 1999 Rural Plan amendments to Shoalhaven LEP 1985, a specific Rural 1(a)(Agricultural Production) zone was introduced to protect areas of prime crop and pasture land. The areas of agricultural land in the Region were not included in this zoning as they consisted of small and relatively isolated parcels.

ECONOMIC RESOURCES

Objective - To ensure that natural resources are sustainably managed in a manner that provides for long term viability and remediation

Actions

- i. Incompatible development will be excluded from areas established for extractive resources, including buffers, in the region.
- ii. Timber extraction in the region will be maintained commensurate with outcomes achieved as a result of the Southern Regional Forest Agreement.
- iii. Statutory planning controls will include appropriate protection for any viable areas of prime crop and pasture land in the region.

Implementation Responsibility

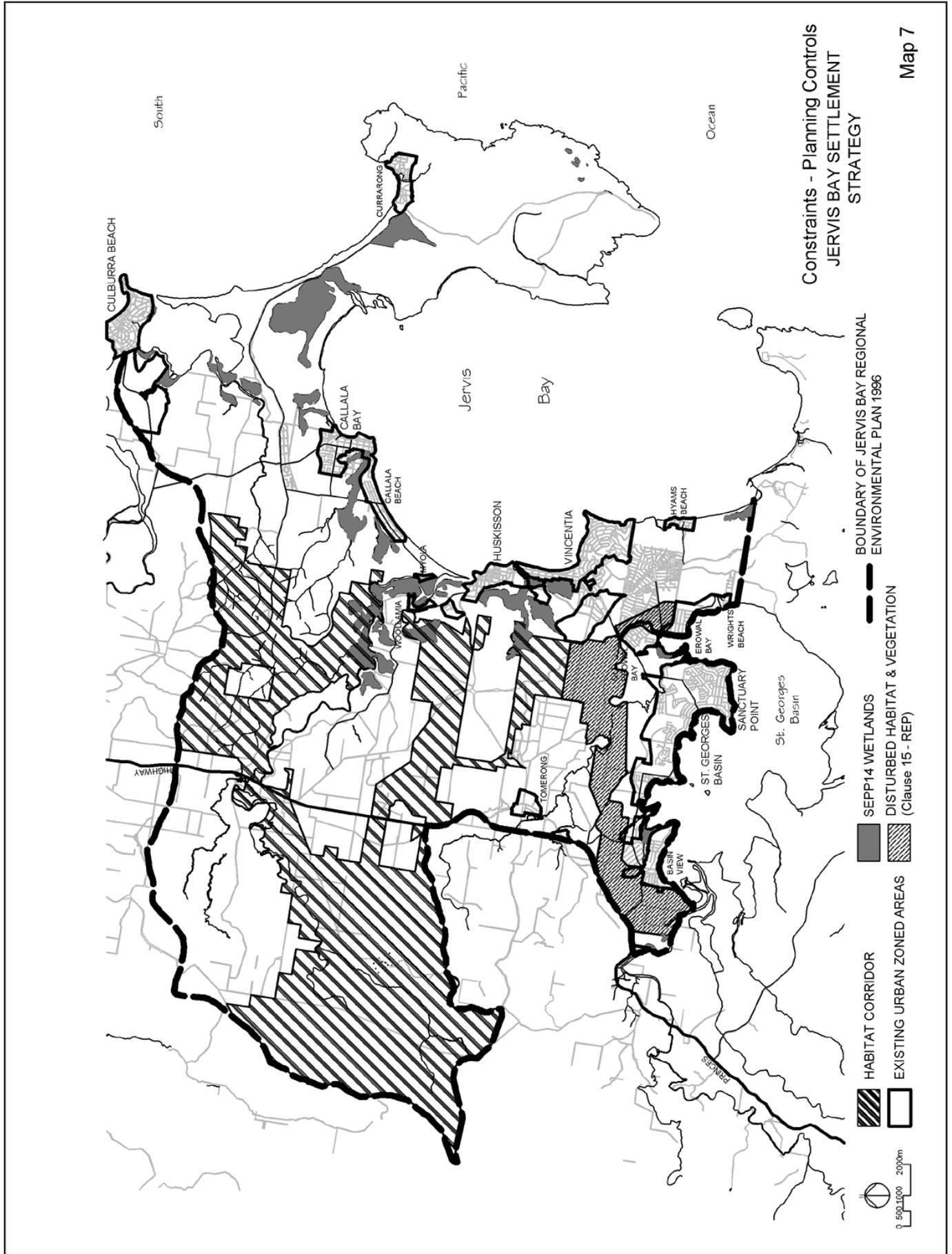
Council, DIPNR, and relevant State Government Agencies

Timeframe for Actions

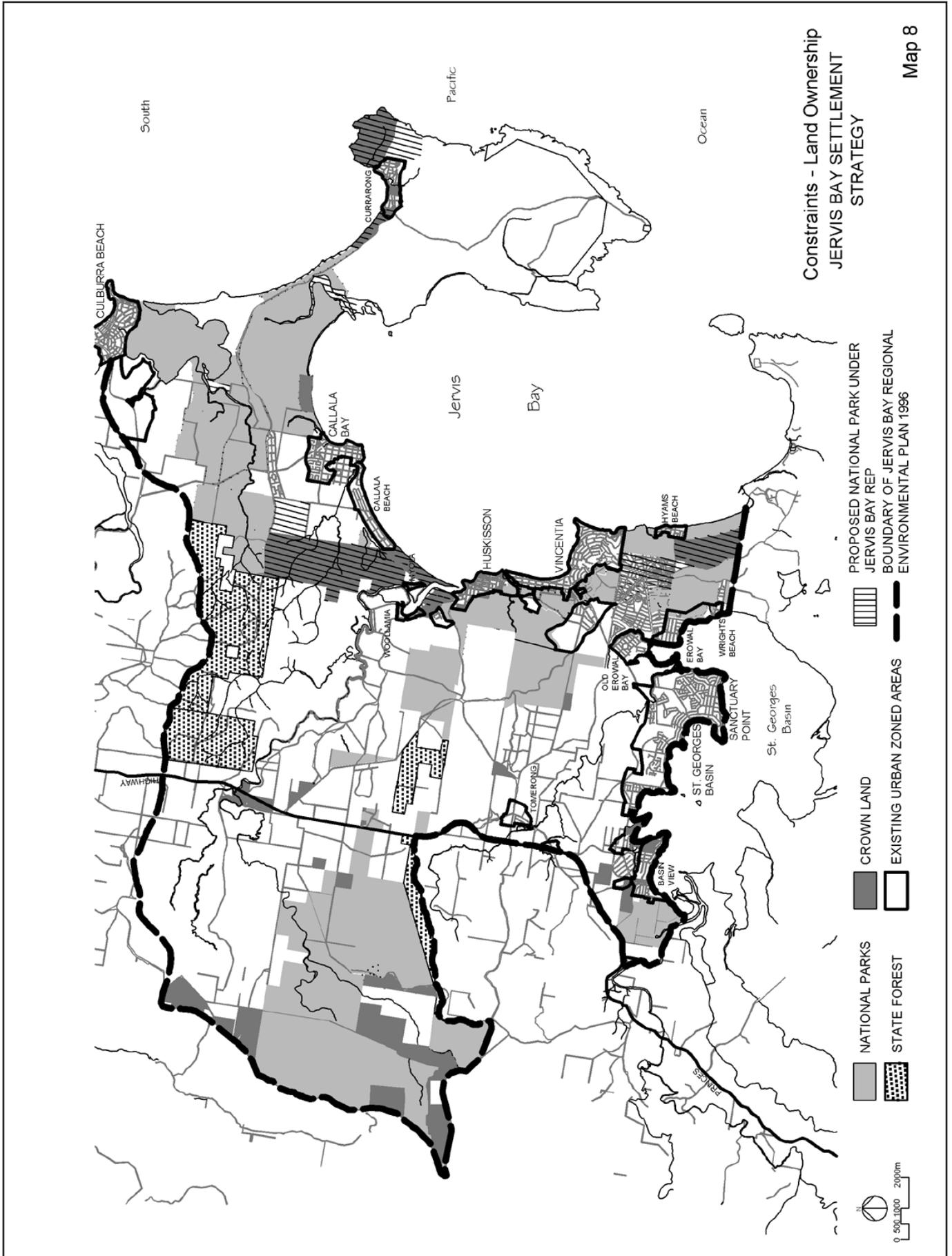
- i. Ongoing
- ii. Ongoing
- iii. Ongoing

Jerwis Bay

Map 7 - Constraints Planning Controls



Map 8 - Constraints Land Ownership



10. Social and Economic Context

Growth management is the mechanism by which the growth of an area is controlled, managed and in some cases limited. Section 9 of this Strategy outlines the range of environmental opportunities and physical constraints in the Jervis Bay Region. Section 10 addresses the social and economic context by detailing a range of issues that are relevant to future settlement in the Region, and presenting options to accommodate and manage future growth for the next 15-20 years to 2023.

In addition to addressing settlement footprints and boundaries, there is a need to ensure that towns and villages in the Region are provided with an appropriate level of infrastructure and services. To address this, Section 10.1 outlines a settlement hierarchy for the Region so that expectations for existing towns and villages are clearly identified. Council currently has a range of plans and policies in place to address many issues relating to community services and transport, which are also identified and discussed in the following Sections.

Options to address residential, rural residential development, and to resolve the issue of the Region's outstanding small lot rural subdivisions are presented in Sections 10.2, 10.4 and 10.5. A number of key economic development and tourism initiatives in the Region are also identified.

One of the issues to be tackled if settlement in the Jervis Bay Region is to continue in the long term, is the need to reach a balance between outward expansion and to identify opportunities and measures to achieve sensible urban consolidation and renewal in existing towns and villages. A range of policy actions are included to commence this debate.

Finally, the Strategy Principles Plan (Map 10) illustrates how the Strategy relates to the Jervis Bay Region, and provides a spatial expression of the following Sections.

10.1 Settlement Hierarchy

Establishing a settlement hierarchy assists in identifying the roles and characteristics of the Region's settlement areas, the way they relate to themselves, and how they relate to other settlements in the wider region and beyond. A settlement hierarchy also helps existing and prospective residents to understand the current and likely levels of community service facilities and infrastructure, and each settlement's role in a regional context.

Council's current settlement policy is to have three major urban centres based on the north, centre and south of the local government area. These are Nowra-Bomaderry (the principal town), Milton-Ulladulla, and a new urban centre based on the existing centres of Jervis Bay and St Georges Basin, respectively. The Shoalhaven Housing Strategy (2000) reinforces the need for a clear hierarchy of centres, and discourages increased population growth in towns and villages of insufficient size to support basic services, particularly sewerage.

A hierarchy of settlements should be based on their facilities and the role they play in a region, rather than purely on population. Wherever possible the existing settlement hierarchy of an area should be strengthened. A four-order hierarchy, which is already evident in part throughout the Region, is recommended for Jervis Bay (illustrated at Map 9) with following names and components:

District Centre

A District Centre for the Region should provide a wide range of employment, entertainment and recreational opportunities, and a full range of local services with some higher order services such as a high school, health care, and indoor recreation facilities. A District Centre should have a large mixed commercial area providing service, retail and office uses, with a large chain supermarket and a discount department store. It would cater for convenience, weekly and comparison shopping.

A new District Centre will be based on the urban settlements of St Georges Basin-Sanctuary Point and Vincentia. It will be located at the intersection of Jervis Bay/Naval College Roads and The Wool Road.

Towns

Towns provide a range of local services, and a variety of employment opportunities in tourism and retail. Towns rely mostly on the District Centre and Regional Centre (Nowra-Bomaderry) for other higher order services and facilities. Towns generally provide for convenience shopping and a small variety of retail uses. The Region's towns are:

- Huskisson
- Vincentia
- St Georges Basin-Sanctuary Point
- Culburra Beach
- Callala Bay

Villages

Villages provide only for convenience needs, and typically have a general store and/or a post office. The Region's villages are:

- Currarong
- Callala Beach
- Myola
- Woollamia
- Hyams Beach
- Wrights/Bream Beach
- Old Erowal Bay
- Basin View
- Erowal Bay
- Tomerong

Rural Residential Areas

Rural residential areas contain larger residential lot sizes of between 1 hectare and approximately 10 hectares. They are generally residential in use, and owners do not derive a principal income from the land, as distinct from farming uses. There are generally no shopping facilities or other services in this area.

The Region's rural residential areas are:

- Woollamia-Falls Creek
- Tomerong (Parnell Road, Evelyn Road)

SETTLEMENT HIERARCHY

Objective - To establish a settlement hierarchy for the Region that relates to the size and function of each settlement, and clarifies community expectations with regard to the provision of infrastructure and services.

Actions

- i. The following settlement hierarchy is adopted (Map 9):

District Centre - New residential and commercial area at the intersection of The Wool Road and Jervis Bay Road/Naval College Road.

Towns - Culburra Beach, Callala Bay, Huskisson, Vincentia, Sanctuary Point-St Georges Basin.

Villages - Currarong, Callala Beach, Myola, Woollamia, Hyams Beach, Wrights/Bream Beach, Old Erowal Bay, Erowal Bay, Basin View and Tomerong.

Rural Residential - Falls Creek-Woollamia and Tomerong (Parnell Road etc).

- ii. The size of the District Centre will have regard to Council's current three-centre growth strategy for Shoalhaven, and the guiding principles and policy actions outlined in this Strategy.
- iii. The provision of community and recreation facilities/services will reflect the settlement hierarchy as outlined above.
- iv. A list of facilities to be provided in each settlement in conjunction with Councils Section 94 Plan and Community Plan will be prepared and provided-for, subject to the guiding principles and policy actions of this Strategy.

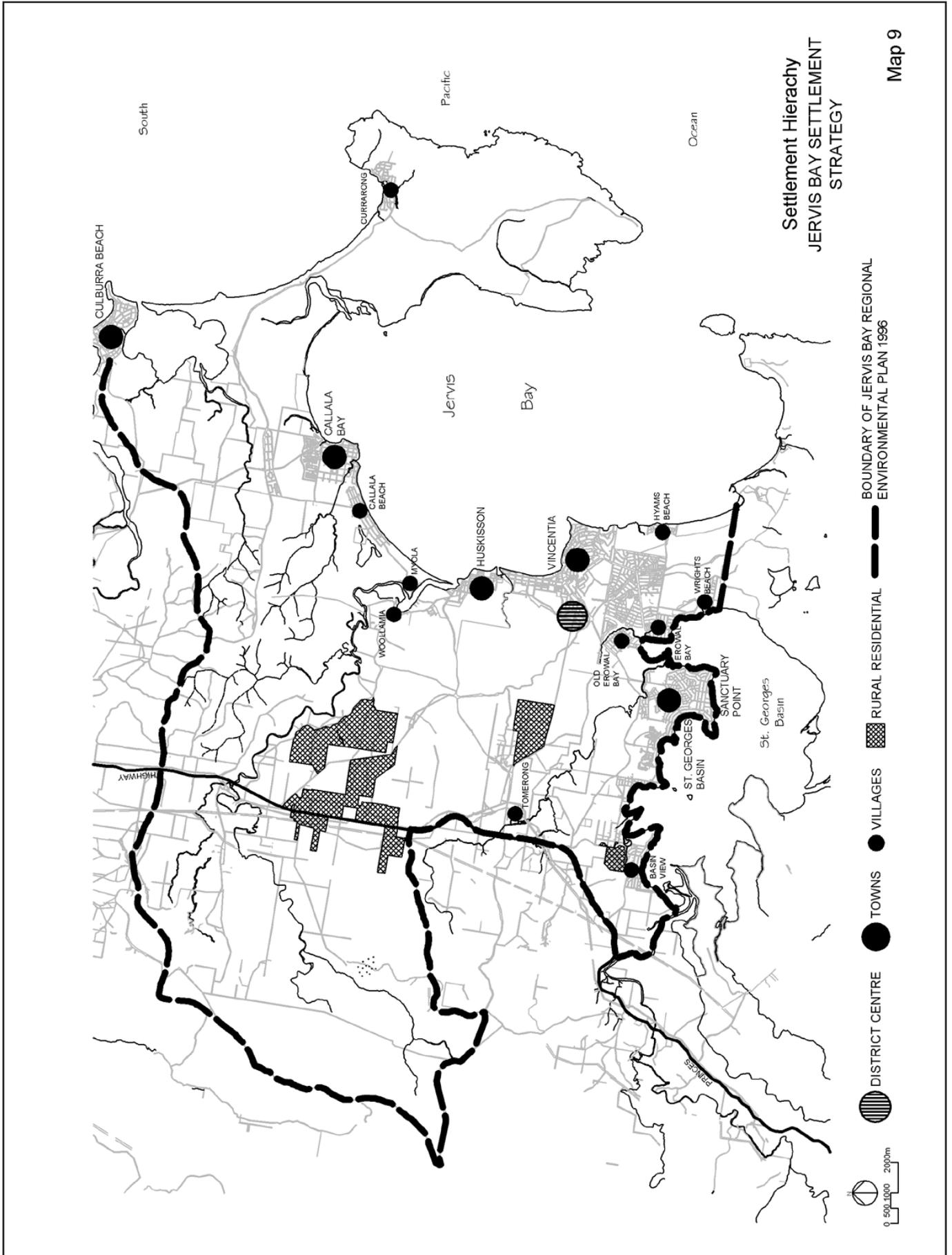
Implementation Responsibility

Council

Timeframes for Action

- i. Short term
- ii. Short term
- iii. Short term
- iv. Short term

Map 9 - Settlement Hierarchy



10.2 Residential Development

The Jervis Bay Region contains seventeen settlements that can be described as conventional residential areas. This is generally defined by the location of a general store and a cluster of dwellings close to each other, on lot sizes mostly smaller than 1,000m². A profile of existing settlements is provided in Appendix 1.

The Jervis Bay REP identifies land at Callala Bay, Sanctuary Point and Vincentia as having potential for urban development, subject to further investigation. As a general principle, new residential development in the Region should be located in or near existing settlements to reinforce the roles adopted by the settlement hierarchy outlined in Section 10.1 of this Strategy. Council has a general philosophy of not allowing residential expansion without the provision of a reticulated sewerage system, and this principle should be adopted for the Jervis Bay Region.

In addition to the provision and delivery of services and infrastructure, many of the existing settlements in the Region are constrained from further outward expansion due to boundaries with National Parks and other public lands; locational or access considerations; or by physical and ecological constraints and attributes. A brief description of these settlements is outlined below:

- Currarong - surrounded by proposed National Park and Becroft Peninsular Naval Firing Range;
- Callala Beach - surrounded north and northwest by wetlands/low-lying flood liable land, and to the west by proposed National Park and to the south by Jervis Bay;
- Myola - located on the edge of Currumbene Creek, it is relatively remote from adjoining settlements and surrounded by proposed National Park;
- Woollamia - no reticulated sewerage, low-lying flood liable land and native vegetation;
- Huskisson - surrounded by National Park and Jervis Bay;
- Vincentia - surrounded by National Park, areas of proposed National Park and Jervis Bay;

- Hyams Beach - surrounded by National Park, areas of proposed National Parks, and Jervis Bay;
- Wrights Beach - surrounded by National Park and St Georges Basin;
- Basin View - surrounded by Corramy State Recreation Area and St Georges Basin; and
- Erowal Bay - surrounded by National Park and environmentally sensitive land.

The settlements of Old Erowal Bay, Tomerong and Falls Creek are not considered suitable for expansion because of their size, servicing issues, lack of opportunities, and relationship to the proposed settlement hierarchy for the Region.

Urban expansion potential

In light of the above, there are limited opportunities to provide for new residential development in the Region. A discussion of the potential urban expansion opportunities in the Region is presented below.

Culburra Beach

Land within the catchment of Lake Wollumboola is affected by the provisions of the Jervis Bay REP and is therefore included in this Strategy. There is a large parcel of undeveloped land immediately to the west of Culburra Beach that is zoned for residential development under the Shoalhaven LEP 1985. It was previously estimated that this area could provide for an additional 3,200 dwellings in the Culburra Beach locality.

In 1993 a development application was submitted to Council for Stage 1 of the Culburra Urban Expansion Area comprising an initial 800-lot subdivision at Long Bow Point. This development application became the subject of a lengthy and detailed Commission of Inquiry, which subsequently resulted in the then Minister for Urban Affairs and Planning refusing the application in June 2000. Given the Minister's decision, the future of the existing residential zoned land near Culburra Beach is uncertain, and will need to be given detailed individual consideration in line with the Commission of Inquiry findings and recommendations and the Minister's decision. Further detail on the Commission of Inquiry, and

Minister's decision is provided in Appendix 2. The Inquiry into NSW Coastal Lakes undertaken by the Healthy Rivers Commission (2002) has recommended that any new urban development within the catchment of Lake Wollumboola be limited to within the existing boundaries of developed areas.

Callala Bay

Callala Bay is constrained to the south and east by Jervis Bay, and to the south-west by a substantial wetland and low-lying flood liable land. The land to the north is heavily vegetated, and has a wetland on the eastern side. Approximately 330 hectares of land to the north and west of the town is identified in the Jervis Bay REP as a potential "new urban release" area. A large part of this area is occupied by a wetland and contains significant native vegetation (NPWS 1997).

In light of these constraints, approximately 35 hectares has been nominated in this Strategy for potential urban expansion (see Map 10A). The lot and dwelling yield in this locality will ultimately be determined following the outcomes of detailed investigation into site constraints and design issues undertaken at the rezoning stage. Issues to resolve in undertaking this investigation include:

- threatened species (eg. Yellow Bellied Glider);
- localised habitat corridors;
- significance of vegetation within the subject land;
- buffers to wetland area and local watercourses;
- water quality/stormwater controls;
- set backs to roads (Emmett Street/Callala Bay Road/Callala Beach Road);
- flooding; and
- bushfire measures.

To the north of Callala Bay immediately adjoining Forest Road/Currarong Road, there is an existing 685-lot small lot rural subdivision within the "new urban release" area nominated by the Jervis Bay REP (see Map 10A). Although this subdivision is currently held in one ownership, it could be sold to individual owners. This small-lot rural subdivision

should be resolved together with investigations into the proposed expansion of Callala Bay identified above.

The lack of available developable land in the Callala Bay area would suggest that early action should be taken to determine the capability of the locality to support further urban development.

St Georges Basin-Sanctuary Point

St Georges Basin-Sanctuary Point is the largest urban area in the Region, and is constrained to the south by St Georges Basin. The St Georges Basin bypass (to the north of the existing urban area) is being finalised to provide a bypass for traffic travelling from the Princes Highway to Vincentia, and this road forms a logical barrier to further northerly expansion of the town. The location of the existing St Georges Basin Sewage Treatment Plant also reinforces the town's boundary, as does the existing naturally vegetated area referred to in the Jervis Bay REP as an area of "disturbed habitat and vegetation".

Approximately 34.4 hectares of land between the existing residential zoned area and the bypass alignment is currently zoned rural, but identified in the Jervis Bay REP as a "new urban release" area (see Map 10H). This area has been nominated for urban development and could potentially provide for up to 344 lots. Detailed assessment is necessary to determine the capability of the land and its actual lot and dwelling yield.

Jervis Bay District Centre

Land at the intersection of The Wool Road and Jervis Bay/Naval College Roads is currently zoned Residential 2(c)(living area), Commercial 3(a)(retail) and Special Uses 5(a) under Shoalhaven LEP 1985 to encourage development of the proposed District Centre (see Map 10E). This zoning has been in place since December 1999 and provides for retail, recreation and community facilities. The site is opposite the existing Vincentia High School and proposed TAFE College site, and is a logical place for the District Centre, which has been planned for some time. Further outward expansion beyond the existing zone boundaries is constrained by the Jervis Bay National Park to the north, east and west.

The area zoned for residential development within the District Centre locality could provide up to 850

dwellings. However this yield may not ultimately be realised following the outcomes of detailed site constraints and design issues to be addressed at the development stage. In particular, the following development principles should be given detailed consideration:

- detailed definition of flood liable areas;
- acid sulphate soils;
- buffers/setbacks to wetlands;
- identification of existing water courses and buffers;
- water quality/stormwater controls;
- threatened species:
 - Identification of flora habitats (eg orchids)
 - Threatened fauna populations (eg Eastern Bristlebird); and
- bush fire protection (north and west)

Under the existing zoning there is also a small area of Residential 2(c) land to the south of The Wool Road adjacent to the proposed TAFE College site. The future viability of this area will also require detailed consideration in light of threatened species issues (eg Eastern Bristlebird).

To ensure the creation of a viable and vibrant commercial centre it may be desirable to have a residential component as part of any future retail development within the District Centre. The current commercial zoning does not permit mixed-use development (residential & commercial) at present, however, the opportunity exists to recommend a change to the current planning controls as part of this Strategy.

The proposals discussed above are shown graphically on the Strategy Principles Plan - Map 10 and the detailed extracts (Map 10A-10I).

RESIDENTIAL DEVELOPMENT

Objective - To ensure that a range of living opportunities for future and existing residents of the Region is provided, and that growth of selected settlements is managed sustainably.

Actions

- i. The supply of housing opportunities for future residential development will be provided within the environmental and servicing limits of the region.
- ii. Areas of new settlement in the region will be located and designed in accordance with the guiding principles and policy actions identified in this Strategy.
- iii. A range of lot and household sizes will be encouraged in new residential areas to allow for housing choice and affordability, and the varying demands of a changing society.
- iv. The following opportunities for new residential development are identified, subject to the guiding principles and policy actions outlined in this Strategy, as areas of potential urban expansion in the region (see also, Map 10):

Callala Bay - provide for possible expansion of the settlement to the west, and resolve the existing small lot rural subdivision (intersection of Coonemia/Currarong Roads) in association with any rezoning.

Jervis Bay District Centre - provide for the staged development of residential land adjacent to the District Centre site, and investigate the potential for residential development to be integrated into the commercial area.

St Georges Basin/Sanctuary Point - provide for the expansion of the urban zoned area to the St Georges Basin Bypass, consistent with the Jervis Bay REP.

Culburra Beach - review the planning controls for the existing Culburra Urban Expansion Area in light of the Long Bow Point Commission of Inquiry and Minister for Planning's decision in June 2000.

- v. The potential for contaminated land to be present within areas identified for new residential development will be investigated and if necessary addressed early on in the rezoning process in accordance with the provisions of SEPP No.55 - Remediation of Land and Councils Contaminated Land Policy.

Implementation Responsibility

Council, DIPNR, and relevant State Government Agencies

Timeframes for Actions

- i. Ongoing
- ii. Ongoing
- iii. Ongoing
- iv. Callala Bay - Short term
Jervis Bay District Centre - Short term
Sanctuary Point - Medium to long term
Culburra Beach - Medium term
- v. Ongoing

10.3 Urban Renewal

Physical and ecological constraints limit linear expansion opportunities in the Jervis Bay Region. Several areas (eg Huskisson, Hyams Beach and Currarong) have and are experiencing pressures for urban renewal, however, increased density housing development in existing urban areas is an emerging issue for the Region.

The principle of urban renewal is a positive in the move towards sustainability. The challenge is to ensure that future demands for housing and accommodation can be achieved without detrimental impacts on the Region's natural attributes, are consistent with urban servicing and infrastructure capabilities, and are designed to complement rather than detract from the Region's character. Development and design guidelines are necessary to ensure that issues associated with changes to locality character (eg design, privacy, amenity and so on) are sensibly managed into the future and not unreasonably altered.

The current provisions of the Shoalhaven Local Environmental Plan 1985 make provision for a range of housing opportunities within the Region. These include rural and rural residential through to higher density residential uses in and adjacent to commercial areas. Specific residential zones provide for medium density housing (100 persons per hectare) in the major settlement areas, and some of the smaller village areas, and, while not encouraging this form, the SLEP 1985 makes allowance through the Residential 2(e) (Village) Zone for alternative development types such as integrated and villa housing. Lack of reticulated sewerage to some of these villages and the size of allotments has restricted any major take-up to date. Most residential areas also allow for dual occupancy development (2 dwellings on 1 allotment) in a separated form.

Urban consolidation has been the subject of much debate in the community, with the focus being generally in relation to locality character change resulting from medium density and dual occupancy proposals. The inability to subdivide dual occupancy developments into two separate titles has had an impact on the rate of dual occupancy development. However this form of housing is still attractive as it provides opportunities for separate rental and tourist accommodation. There have been a number of requests for Council to revisit the existing zoning

provisions, usually during and after consideration of a specific development.

The Shoalhaven Housing Strategy makes specific recommendations in relation to managing urban consolidation issues. While the implementation model advocates investigation of higher densities in the major urban centres of Nowra/Bomaderry and Ulladulla, there are some overall recommendations from the Strategy which are relevant to the Region. These relate to:

- provision of villas and integrated development on small portions of the larger Bay and Basin centres; and
- encouragement of redevelopment in nominated locations

Current State Government policy relating to Housing for Older people or People with a Disability (SEPP No 5) allows for such development other than in urban zones. However, recent amendments to the policy have strengthened the need for proposals to provide justification of adequate back up infrastructure, particularly in the social service area.

Huskisson is acknowledged as the focal point for tourism in the Region. Outward expansion is limited but there may be potential to increase densities and promote urban consolidation within appropriate areas of the existing town. The town is one of the older settlements in the Region, and contains a number of relatively large urban zoned lots which could be redeveloped for higher density use. As the town is also a major tourist precinct there is a demand for development sites to accommodate tourist and residential uses.

URBAN RENEWAL

Objective - To ensure that opportunities for urban renewal and alternative development forms are investigated in order to meet future settlement needs for the region.

Actions

- i. Current and future opportunities for, and issues associated with, urban renewal (eg. infill development, dual occupancy, medium density and so on) in existing settlements will be investigated.
- ii. Urban consolidation provisions within the current planning framework for the region will be investigated and reviewed to allow for a range of housing types, and to identify the likely future policy needs.
- iii. Guidelines will be established, where appropriate, to ensure development complements existing urban/village character, and to set performance standards for ensuring residential amenity, privacy, landscaping and so on.
- iv. Mixed use developments in commercial centres, including 'shop-top' housing, will be encouraged.
- v. Huskisson will be promoted as the gateway to the Jervis Bay Region by providing a range of integrated housing opportunities that caters for both tourist accommodation and permanent living.
- vi. Opportunities for a community education and consultation program targeted at positive urban renewal and initiatives will be explored and investigated.

Implementation Responsibility

Council, DIPNR, and relevant State Government Agencies

Timeframes for Action

- i. Short to medium term
- ii. Short to medium term
- iii. Short to medium term
- iv. Ongoing
- v. Ongoing
- vi. Short to medium term

10.4 Rural Residential Development

Rural residential development can be divided into two broad types, as follows:

- “rural urban fringe living” - usually on the edge of a town with lot sizes of 4,000m² to 2 hectares, this form of rural residential development is often provided with similar types of facilities as the adjacent town (kerb and guttering, water, garbage collection, etc); and
- “rural living” - housing in a rural area with relatively larger lot sizes (2 to 4 hectares and above), this form of rural residential development is rarely close to an existing town and is usually not provided with the same level of facilities and services.

The Jervis Bay Region contains a number of existing rural residential areas, located in the Woollamia-Falls Creek localities, small areas to the northeast of Basin View, and to the east of Tomerong (see Maps 10B, 10C, 10D, 10I). Lot sizes range from 2-8 hectares, with some smaller lots forming part of a small lot rural subdivision known as Nebraska Estate (see Section 10.5). The type of rural residential development currently available in the Region is considered to be more of a ‘rural living’ rather than ‘rural urban fringe’ nature.

There is a perceived demand for this living opportunity, however, since there has not been a lot of recent subdivision in the Region it is difficult to quantify the actual demand. There are a number of environmental and social consequences associated with providing rural residential living opportunities, and this Strategy presents two broad approaches for managing rural residential development in the Jervis Bay area, as follows:

- investigation of increased densities in existing rural-residential areas; and
- provision of new areas for either rural living or rural-urban fringe living opportunities, by resolving two small lot rural subdivisions, namely Nebraska Estate and Jerberra Estate.

A brief discussion of the Region’s rural residential areas, is provided below.

Increased Densities in the Existing Rural Residential Deferred Areas

A number of localities in the Region, including Woollamia - Falls Creek, Tomerong and Basin View, have a “deferred” status under the current LEP. The zoning of these areas reverts back to their previous zoning of Rural Residential 1(c1), 1(c2) or 1(c3) under an earlier version of the LEP prior to the gazettal of the Rural Plan amendments in 1999. The rural residential zones that apply to these areas provide for lot sizes of 1 hectare (1(c1) zone), 2 hectares (1(c2) zone), and 10 hectares (1(c3) zone) respectively.

Under the Rural Plan amendments gazetted in 1999, a new zone called Rural 1(c)(Rural Lifestyle) was introduced to replace the previous three rural residential zones. The Rural 1(c) zone enables subdivision to a minimum of 1 hectare in appropriate locations.

The Strategy Principles Plan (Map 10) identifies that the existing rural residential “deferred” areas will be investigated further for their potential to provide increased rural living opportunities for the Region. If the existing rural residential “deferred” areas are rezoned to the Rural 1(c) zone (thus enabling subdivision down to an absolute minimum of 1 hectare), it may be possible to increase the density of rural residential development in some of these existing areas and to use this process to also achieve outcomes for biodiversity, riparian areas and so on.

The following comment is provided on each of the existing areas:

Woollamia - Falls Creek

There are approximately 353 existing lots in this area, ranging in size from below 1 hectare to above 10 hectares (see Map 10B & 10C). The majority of lots are in the size ranges 1-2 hectares and 2-3 hectares, but there are a number of larger lots between 8 and 10+ hectares. Approximately 10% of the existing lots are vacant. The remaining 90% have been developed for dwellings or other uses.

A large part of Woollamia-Falls Creek locality is within the catchment of Currambene Creek. If increases in rural residential density are proposed, a number of issues will require detailed investigation, including water quality and on-site effluent capability. Other issues relating to bushfire protection, native vegetation, flooding, protection of riparian buffers, and potential impacts on existing character will also require consideration.

As a principle, development in the locality should not be intensified on land identified as being within the habitat corridor nominated in the REP. The design of any future subdivision will require careful consideration, as a large number of the lots in this area have narrow road frontages and are relatively long. Detailed evaluation will be necessary to determine any additional future lot and dwelling yield.

Tomerong

In comparison to Woollamia-Falls Creek, the deferred Tomerong rural residential area is relatively small (see Map 10D). It comprises approximately 79 lots, with sizes ranging from 1 to 4 hectares. Approximately 30% of the existing lots are vacant, with those remaining occupied by dwellings or other uses. The area adjoins a “habitat corridor” identified in the Jervis Bay REP, part of which has recently been added to the NSW Jervis Bay National Park. Any proposal to increase the rural residential densities in this area will require detailed investigation in respect of water quality, on site effluent capability, and other issues. The ability to further subdivide given the existing lot layout will also require consideration.

Basin View

The Basin View rural residential area located on The Wool Road is currently zoned Rural Residential 1(c1) requiring a minimum lot size of 1 hectare for development (see Map 10I). There are currently 82 lots, approximately 60 of which are adjacent to Lusitania Avenue forming part of a small lot rural subdivision (see Section 10.5). It is not proposed to investigate this area further given the existing subdivision minimum of 1 hectare, which is consistent with the minimum standard for the current Rural 1(c) zones in Shoalhaven LEP 1985.

Limited New Rural Residential Areas

The Strategy Principles Plan (Map 10) identifies three new rural residential settlement opportunities in the Region. These are Jerberra Estate, Nebraska Estate, and Worrowing.

Jerberra Estate

Jerberra Estate is a small lot rural subdivision that is located to the east of Tomerong (see Map 10D). There is an existing rural residential subdivision to the south, and the area is already in fragmented ownership. Further discussion on Jerberra Estate is contained in Section 10.5 of this Strategy.

Nebraska Estate

Nebraska Estate is a small lot rural subdivision that is located to the north and west of Basin View (see Map 10I). The subdivision is immediately adjacent to the village, and is already in fragmented ownership. Further discussion on Nebraska Estate is contained in Section 10.5 of this Strategy.

Worrowing

Worrowing is a large rural property on the northern side of The Wool Road near Erowal Bay (see Map 10G). Council has resolved to rezone part of the property adjacent to Erowal Bay to provide for rural residential development, and a detailed environmental study has been prepared to support the proposal. Completion of the rezoning is contingent on the outcomes identified in this Strategy and, in particular, it may be possible to negotiate dedication of land adjoining Worrowing Creek that is part of the habitat corridor identified in the Jervis Bay REP.

RURAL RESIDENTIAL DEVELOPMENT

Objective - To ensure that rural residential deferred areas are resolved, and that new opportunities for rural residential development are in keeping with the region's natural and cultural attributes.

Actions

- i. The potential for the existing rural residential deferred areas to accommodate increased densities will be resolved in accordance with the guiding principles and policy actions outlined in this Strategy. In order to achieve increased densities, an understanding of the baseline environmental condition should be investigated and the potential cumulative impacts should be addressed.
- ii. Worrowing - the possibility of limited development that also provides for the protection and management of the habitat corridor in the locality will be investigated.
- iii. The potential for contaminated land to be present within areas identified for new rural- residential development will be investigated and if necessary addressed early on in the rezoning process in accordance with the provisions of SEPP No.55 - Remediation of Land and Councils Contaminated Land Policy.

Implementation Responsibility

Council, DIPNR

Timeframes for Actions

- i. Short term
- ii. Short term
- iii. Short term

10.5 Small Lot Rural Subdivision

There are several small lot rural (“old paper”) subdivisions in the Jervis Bay Region. Whilst a number were acquired by the National Parks and Wildlife Service and incorporated into the Jervis Bay National Park, these subdivisions represent one of the greatest unresolved planning issues in the Region.

Small lot rural subdivisions are characterised as areas that contain residential sized allotments (generally less than 1,000m²) with a rural zoning that does not allow for the building of a dwelling under the existing planning controls. These subdivisions have a long and complicated history, having been created and registered in the early part of the 20th century. Some subdivisions are held in single ownership, whilst others are held by multiple owners. Those held by multiple owners are problematic because they were purchased with an expectation that the land would be rezoned for residential development in the future. In many cases, however, allotments were bought in full knowledge that a dwelling entitlement did not exist.

There is a need to identify clear options for these subdivisions, and to identify procedures to be followed to resolve their future. This Strategy identifies four broad options to address small lot rural subdivisions in the Region, namely:

- Option 1: retain the current zoning;
- Option 2: investigate rezoning in accordance with this Strategy and, where appropriate, allow each lot to have a dwelling built on it;
- Option 3: investigate rezoning in accordance with this Strategy and, where appropriate, amalgamate lots to a minimum size in order to accommodate on-site effluent disposal; or
- Option 4: public purchase of the land for a public use such as addition to the National Park.

The first and last options identified above are not considered to be viable for all of the small lot rural subdivisions in the Region. The subdivisions are a longstanding problem which must be resolved, and it is not considered appropriate or feasible to use public funds to acquire those that are held by multiple owners.

Resolution of small lot rural subdivisions in the Region will be pursued in accordance with this Strategy, which provides strategic direction for planning outcomes at both the local and regional level.

Existing small lot rural subdivisions in the Jervis Bay Region

The names, location, and details of the remaining small lot rural subdivisions in the Region are as follows:

- **Kinghorn Point:** located on the southern shores of Lake Wollumboola and north of Currarong Road. Total number of lots is 920, and is currently held in one ownership.
- **North Callala Bay:** located south of Currarong Road on the east and west side of Callala Bay Road extending to Callala Beach road and 300 metres south. It is approximately 1 km north of the Callala Bay settlement. Total number of lots is 685, and is currently held in one ownership.
- **Jerberra Estate:** located south of Pine Forest Road and north of Parnell Road, approximately 1.5 km to the east of Tomerong. Total number of lots is 160 and is currently held in 121 ownerships. Council has commenced investigations into the potential for rezoning.
- **Nebraska Estate:** located immediately northeast of the urban area of Basin View. Total number of lots is 120, currently held by 45 owners. Council has commenced investigations into the potential for rezoning.
- **Woollamia Farmlets:** consists of a number of small lots (ranging from less than 2000m² to 8 ha) in the Woollamia area around Woollamia Road. Total number of lots is 98, held by 53 owners.
- **Heritage Estates:** located north east of Erowal Bay, on land bounded by The Wool Road, Naval College Road, Erowal Bay Road and Worroing Creek to the south of the proposed District Centre. Total number of lots is 1,200 currently held in 1,100 ownerships. The possible rezoning of this subdivision was the subject of a Commission of Inquiry in 1999.
- **North Erowal Bay:** located immediately north of the Erowal Bay township to Erowal Bay Road, and extending to the eastern limits of the township. Total number of lots is 300, held predominantly in one ownership.
- **Lusitania Avenue, Basin View.** Total number of lots is approximately 60, with each around 1,500 square metres in size and currently zoned Rural Residential 1(c1). The minimum lot size is 1 hectare, and opportunity exists for consolidation and re-subdivision.

Framework for resolving small lot rural subdivisions in the Jervis Bay Region

In accordance with the options detailed above, this Strategy identifies a number of recommendations to resolve the small lot rural residential subdivisions in the Region. Where relevant, these proposals are illustrated on the Strategy Principles Plan (Map 10) and the accompanying detailed Maps 10A-I, and discussed below:

- **Kinghorn Point.** Kinghorn Point is not identified in this Strategy as an area that is capable for future residential development in light of environmental and cultural heritage constraints. Detailed investigation will be required to determine its use in the long term. Further comment in regard to this site is provided in Section 10.9 - Economic Development.
- **North Callala Bay.** The North Callala Bay small lot rural subdivision (Map 10A) should be resolved in connection with the proposed rezoning of land adjacent to Callala Bay, as discussed in Section 10.2 of this Strategy. Any future rezoning of the proposed Callala Bay urban expansion area should seek to consolidate this existing small lot rural subdivision, as part of the urban development outcomes associated with the Callala Bay township.
- **Jerberra Estate.** As discussed in Section 10.4, Jerberra Estate (see Map 10D) will be investigated to provide for rural residential living opportunities. In order to achieve this, it will be necessary to finalise detailed environmental investigations that have commenced into the appropriate size and configuration of allotments and their ability to accommodate on-site effluent disposal.
- **Nebraska Estate.** Resolution of outcomes for Nebraska Estate are currently being considered in two stages:
 - Park Road Section: this comprises twenty (20) existing lots adjoining Park Road. Detailed investigation work has been undertaken and the area was rezoned to Residential 2(a3) in June 2001 to provide for thirteen dwellings, which were connected to the reticulated sewerage scheme serving the adjoining urban area; and
 - Remainder of the estate (see Map 10I): as discussed in Section 10.4 the remainder of Nebraska Estate will be investigated to provide for rural residential living opportunities. In order to achieve this, it will be necessary to finalise detailed investigations to determine the actual development potential, having particular regard to flooding risk and native vegetation. It is likely given known information that investigations into Nebraska Estate could ultimately result in rural residential development.
- **Woollamia Farmlets.** There are a number of lots (possibly only 15) larger than 2 hectares generally located on the northern side of Woollamia Road that cannot currently be built on. The possible rezoning of these lots to enable a dwelling to be built on each should be investigated (see Map 10C). There are 57 smaller lots along Woollamia Road and Goodlands Road that range in size from 800 to 2,900 square metres. Detailed environmental studies will be undertaken to determine the actual development potential for both areas. Land that is identified as being flood liable will generally not be considered for development, and some of the smaller lots may need to be consolidated to an appropriate size to accommodate on-site effluent disposal. The following issues in particular will also require consideration in the detailed assessment: wetlands and setbacks; water courses and setbacks; habitat corridor issues; flooding; and impacts on cultural heritage.
- **North Erowal Bay.** The North Erowal Bay small lot rural subdivision will be retained in its existing rural zoning.
- **Lusitania Avenue, Basin View.** The Lusitania Ave small lot rural residential subdivision will be retained in its current rural residential zoning, with a minimum lot size of 1 hectare. The owners should be encouraged to pursue the option of consolidation and resubdivision.
- **Heritage Estates (Worworing Heights).** As outlined above, the Heritage Estates small lot rural subdivision was the subject of a Commission of Inquiry to determine the suitability of the land for residential development. The Commissioner made 12 recommendations and indicated that approximately 730 of the 1,200 lots were suitable for residential development subject to there being a staged development of the land. The recommendations of the Commissioner are contained hereunder.
 1. *Council give appropriate consideration to including the Heritage Estate land in the draft Jervis Bay Settlement Strategy subject to the findings and recommendations of this report.*

2. *Council delay preparing a draft Local Environmental Plan to rezone part or all of the Heritage Estate land until after Council has prepared and exhibited a draft Jervis Bay Settlement Strategy.*
 3. *Council not prepare a draft Local Environmental Plan to rezone part or all of the Heritage Estate land unless the land is included in a current Jervis Bay Settlement Strategy.*
 4. *Any land on the Heritage Estate considered suitable by Council for residential development and included in a current Settlement Strategy be zoned Residential 2(a1) and any land having fauna habitat and wildlife corridor value as generally set out in Option 4 be zoned for Environmental Protection.*
 5. *The important fauna habitat and wildlife corridor values of the Heritage Estate land be protected by limiting any future residential development on the land generally to Option 4 yielding a maximum of 730 lots with 730 dwellings.*
 6. *Any future residential development on the Heritage Estate land be staged in accordance with Figure 7.6 in the Patterson Britton Report adapted to Option 4 except that Stage 2 be the final stage developed due to its location largely within Closed Sedgeland areas.*
 7. *The discharge of water pollutants from the Heritage Estate land be controlled to the requirements of the Environment Protection Authority (EPA) following a comprehensive monitoring program of current run-off water quality to ensure there is no net increase in the average annual pollutant load leaving the Heritage Estate land compared with the existing pollutant discharge load.*
 8. *Water volume rate discharges from the Heritage Estate land be controlled to the requirements of the EPA to reflect existing water volume rate discharges.*
 9. *Before any residential development in Closed Sedgeland areas is considered for inclusion in a Settlement Strategy:*
 - *The presence or not of acid sulphate soil be confirmed and appropriate management protocols implemented to the requirements of the Department Land and Water Conservation (DLWC);*
 - *The quality of groundwater drainage from the Closed Sedgeland areas be assessed in accordance with the no net increase in pollutants leaving the site goal to the requirements of the EPA in consultation with DLWC*
 10. *The Heritage Estate landowners pay the full cost of providing infrastructure and developing their land and that individual landowners be responsible for the cost of any groundwater drainage required for their individual lots.*
 11. *Birriga Avenue not be developed as a through road between Jervis Bay Road and The Wool Road.*
 12. *The Heritage Estate landowners themselves be responsible for compensation payable, if any, to those landowners who land is unsuitable for residential development or required for water pollution control ponds.*
- Map 11 illustrates the relevant Commission of Inquiry recommendations.
- The location of the Estate adjacent to the proposed District Centre and availability of services confirms that it is appropriate to include this as a residential component of the Strategy. The future rezoning of the land will require detailed consideration in accordance with the Commissioner's recommendations, specifically monitoring and staging requirements; funding of infrastructure; and other issues identified in this Strategy.

SMALL LOT RURAL SUBDIVISIONS

Objective - To ensure that a process is established for resolving the development potential of existing small lot rural zoned subdivisions in accordance with this Strategy.

Actions

- i. Heritage Estates - Consideration of development potential in the Heritage Estates will be undertaken in accordance with the findings and recommendations of the Commission of Inquiry, and the outcomes of any relevant environmental investigations completed in accordance with this Strategy.
- ii. Jerberra Estate - The development potential for rural residential development will be investigated through a review of lot sizes and configuration in order to accommodate on site effluent management and meet the guiding principles and policy actions of this Strategy.
- iii. Nebraska Estate - Park Road Section rezoned to Residential 2(a3) in June 2001 to provide for 13 dwellings in accordance with the detailed environmental investigations. The development potential of the remainder of the estate will be investigated through: a review of lot sizes and configuration in order to accommodate on site effluent management; having considered the performance and success or otherwise of environment measures at Park Road; and in accordance with the guiding principles and policy actions of this Strategy.
- iv. Woollamia Farmlets - The development potential of the Woollamia Farmlets, including Goodlands Road, will be investigated through a review of lot sizes and configuration in order to accommodate on site effluent management and meet the guiding principles and policy actions of this Strategy. Lots larger than 2 hectares may be able to provide for one dwelling to be built on each lot, provided the guiding principles and policy actions of this Strategy can be achieved.

Implementation Responsibility

Council, DIPNR, and relevant State Government Agencies

Timeframes for Action

- i. Short Term
- ii. Short Term
- iii. Short Term
- iv. Short Term

10.6 Infrastructure Requirements

Infrastructure such as water, sewerage, electricity, and telecommunications is necessary for the provision of human settlement areas. The settlement profile (Appendix 1) outlines the current provision of infrastructure to settlements in the Region, and, as a principle, new residential land should not be released unless infrastructure is provided or available.

To accommodate future growth, existing infrastructure may need to be augmented or new infrastructure provided. The following comments are provided in relation to the provision of infrastructure in the Region:

Domestic Effluent Disposal

The management of effluent disposal is an important consideration for human settlement, as untreated effluent has the potential to affect human health, water quality, and the environment generally.

Reticulated effluent disposal for the residential settlements is dealt with in the following Section. All existing settlements except Tomerong, Woollamia and Falls Creek are either currently sewered or will be in the near future.

Rural residential areas in the Region are not served by reticulated sewerage nor are they planned to be. The NSW Government has released Environment and Health Protection Guidelines for On-site Sewage Management for Single Households, which have to be complied with for all new on-site effluent disposal systems. Council also has a detailed Development Control Plan relating to "On site Sewage Management" (DCP No.78).

Water & Sewerage

The provision of water and sewerage is the responsibility of Shoalhaven Water, which is a division of the Council. Reticulated sewerage is currently provided to all of the settlements in the Region except for Currarong, Tomerong, Woollamia and Falls Creek. The provision of reticulated sewerage to Currarong is currently under consideration, with preliminary assessment work having already been undertaken and a more detailed options development report to be prepared. It is not proposed, at present, to provide reticulated sewerage to Tomerong, Woollamia or Falls Creek.

The first stage of the Northern Shoalhaven Reclaimed Water Management Scheme (REMS) became operational in 2002 and accommodates reclaimed water from six wastewater treatment plants (Bomaderry, Nowra, Culburra Beach, Vincentia, Callala, St Georges Basin). The scheme reuses reclaimed water for irrigation of farms, golf courses and other suitable applications. The first stage of the scheme covers the St Georges Basin, Vincentia, Callala and Culburra Beach wastewater treatment plants.

Council has the general principle of not allowing residential expansion without the provision of reticulated sewerage. In this regard there is sufficient capacity in the REMS to accommodate reasonable population growth into the future in the areas identified for growth under the Strategy Principles Plan (Map 10).

Reticulated water is currently supplied to all of the residential settlements in the Region, and the majority of the rural residential areas in the Woollamia area. The Region forms part of the Northern Shoalhaven Water Supply Scheme that sources water from the Shoalhaven River at Burrier to service the area from Berry in the north to Lake Conjola in the south. As part of this Scheme there are water reservoirs located at Vincentia and Currarong.

As the population of the Region expands, strategies will be developed to ensure that the water needs of residents are met. Council will continue to make the community aware of the need to conserve water, and to improve water management strategies.

In keeping with established policy new rural residential development areas should not be provided with reticulated water unless reticulated sewerage exists or is scheduled for the future.

Electricity & Telephone

Reticulated electricity is provided to the existing settlements of the Region by Integral Energy. There are four major zone substations servicing the area, located at Culburra Beach, South Nowra, Huskisson and Sussex Inlet. As a result the capacity for the existing electricity network to supply major loads is concentrated in existing development areas surrounding these substations. Council will liaise with Integral Energy on the timing of development

that may create a demand for additional services, and identify how this demand can be accommodated.

The Region is currently well serviced with telephone and related services. Council will liaise with Telstra and other service providers on the timing of development that may create a demand for additional services.

Solid Waste Disposal

Solid waste generated in the Region is currently transported to the West Nowra Waste Disposal site via two transfer stations, located at Huskisson and Coonemia Road north of Callala Bay.

At present, some of the Region's rural residential development is not served by a regular garbage service. This matter should be investigated.

Recycling is a major contributor in reducing the amount of waste that is disposed of in landfills. Improvements in the current recycling service to cover rural residential areas, as well as the urban areas, will be investigated in accordance with Council's responsibilities under relevant legislation.

INFRASTRUCTURE REQUIREMENTS

Objective - To ensure that settlement areas are provided with adequate and efficient infrastructure and services.

Actions

- i. A level of infrastructure for the region will be provided in line with the settlement hierarchy outlined in this Strategy.
- ii. Existing strategies for the provision of community and recreation facilities, and infrastructure etc will be implemented in consultation with responsible service agencies.
- iii. All new urban development identified in this Strategy will be provided with reticulated water and sewerage systems.
- iv. All new rural residential development will be provided with reticulated water only if reticulated sewerage is available.
- v. On site effluent management for rural residential development will be implemented in accordance with: Development Control Plan No.78 - On Site Sewage Management; the NSW Environment & Health Protection Guidelines for On-site Sewage Management for Single Households; and the guiding principles and policy actions identified in this Strategy.
- vi. Waste management and recycling services will be implemented in accordance with Council's existing policy. The provision of regular roadside garbage service for rural residential areas will be investigated and appropriate measures for the management of waste determined.

Implementation Responsibility

Council, RTA, Utility Authorities and relevant State Government Agencies.

Timeframes for Action

- i. Ongoing
- ii. Short term
- iii. Ongoing
- iv. Ongoing
- v. Ongoing
- vi. Short to medium term

10.7 Access

Roads & Traffic

Road access to the Jervis Bay Region is provided via the Princes Highway in two locations - Forest Road and Jervis Bay Road. From an access perspective, the study area can be divided into two separate areas with Currumbene Creek acting as the divider. Council has a policy to provide a crossing of Currumbene Creek, and is currently pursuing the preparation of a development application and supporting information. The proposed crossing of Currumbene Creek is not seen as critical to the future settlement of the Region, it will however add to the amenity of the area and allow for a north-south access through the Region.

Council's road hierarchy for the Region is as follows:

Regional Roads

- Princes Highway
- Greenwell Point/Culburra Roads
- Snowwood Road and Currumbene Creek Crossing (proposed)
- Jervis Bay Road
- St Georges Basin Bypass (not complete)

Collector Roads

- Coonemia Road
- Currarong Road
- Callala Bay Road
- Forest Road
- Huskisson Road to Elizabeth Drive
- The Wool Road/Larmer Avenue/Paradise Beach Road/Walmer Avenue/Loralyn Avenue/Island Point Road/The Wool Road
- Hawken Road

Local Roads

- All other roads in the study area.

The NSW Roads & Traffic Authority (RTA) has indicated that their principal concern in relation to settlement in the Region is the future efficiency of the Princes Highway. As land is rezoned in the Region, detailed consideration will be required on the cumulative impacts of future development on the State road network, particularly the Princes Highway. Particular attention will need to be paid to existing/proposed access points onto the Highway and to the alignment of Jervis Bay Road. A system of monitoring movements and traffic volumes accessing the Highway may need to be established.

The completion of the St Georges Basin Bypass in 2003 will provide improved vehicular access to the Region, particularly to the St Georges Basin area, and for traffic to and from the southern parts of Shoalhaven and the lower South Coast.

Pedestrians & Cyclists

Limited pedestrian and cycle networks exist in the Region, and some improvements could be made to pedestrian and bicycle access in and between the towns and villages. Council adopted the Shoalhaven Bicycle Strategy (1997) as a means of identifying required bicycle routes and prioritising their construction. Council has also prepared a Pedestrian Access & Mobility Plan (PAMP) for the main urban areas of the City, including Jervis Bay/St Georges Basin. The PAMP identifies required pedestrian facilities and prioritises their implementation.

In regard to pedestrian and cycle links within the Region, there has been some suggestion that there may be merit in investigating the potential for a pedestrian/cycle access across Currumbene Creek from Myola to Huskisson.

Public Transport

The provision of public transport to the area is currently low, and basically consists of school buses, taxis and a limited commercial bus service. Council, in association with the community, has prepared the Shoalhaven Integrated Transport Strategy (August 2000) to attempt to address the issue of access to public transport throughout the City.

Implementation of the Integrated Transport Strategy will improve access to public transport in the Region. Provision of additional services and recreational opportunities within the Region will assist in establishing and maintaining internal links. It is necessary in any area to plan for a population capacity and urban form that will provide this viability.

ACCESS

Objective - To ensure that settlements are permeable and accessible to pedestrians, cyclists and public transport, and that adequate access is provided from within and outside of the region.

Actions

- i. New development will be designed to provide for permeability and accessibility by pedestrians and cyclists within the local service network (ie. schools, shops, recreation areas and so on).
- ii. To ensure that the integrity of the State Road Network, and in particular the Princes Highway, is maintained the cumulative impacts of future development within the Region will be addressed at the rezoning investigation stage. Particular attention will be paid to the existing/proposed access points onto the Highway and to the alignment of Jervis Bay Road.
- iii. Public transport within the region will be encouraged and promoted through the implementation of the Shoalhaven Integrated Transport Strategy. In particular, public transport will be encouraged between existing and new settlements and the District Centre.
- iv. New development will attempt to minimise the need for car usage within the region, and be designed to maximise opportunities for alternative transport usage. Relevant policy principles arising from the NSW Transport Package Integrating Landuse and Transport (2001) will be investigated and explored in assessing new development in the region.
- v. New roads and traffic generating developments will be designed and implemented in accordance with State Government policies and environmental criteria for road traffic noise.
- vi. The existing road network will be maintained with the following road hierarchy for the Region:

Regional Roads - Princes Highway, Greenwell Point/Culburra Roads, Jervis Bay Road, St Georges Basin Bypass and the Currumbene Creek Crossing and Snowwood Road (if constructed).

Collector Roads - Coonemia Road, Currarong Road, Callala Bay Road, Forest Road, Huskisson Road/Elizabeth Drive, The Wool Road/Larmer Avenue/Paradise Beach Road/Walmer Avenue/Lauren Avenue/Island Point Road/The Wool Road and Hawken Road.

Local Roads - All other roads in the Region.

Implementation Responsibility

Council, RTA, and DIPNR

Timeframes for Action

- i. Ongoing
- ii. Ongoing
- iii. Ongoing
- iv. Ongoing
- v. Short term
- vi. Ongoing

10.8 Community Services & Facilities

A variety of community services and facilities are provided within the Jervis Bay Region, however the majority of larger services such as hospitals, emergency care, counselling, and employment services are provided in the City's principal town Nowra/Bomaderry.

Local services and facilities such as pre-schools, community centres, and primary schools are provided within easy access to most settlements in the Region. A high school is located at Vincentia, and a site adjacent to it has been identified for a future TAFE College (possible relocation). An overview of the services and facilities available in the Region are detailed in Appendix 1.

A number of services in the Region, however, are not easily accessible for people who do not have access to a private car. The Shoalhaven Community Plan (2001) identifies access to services as an issue, especially for those villages and towns located outside the major centre of Nowra/Bomaderry. It is therefore important that existing human service catchments are reinforced in managing the future development of the Region.

The Community Plan also identifies services and facilities currently available to residents of Shoalhaven, and highlights both the needs for the general community as well as those of seven mandatory target groups. Objectives and priorities have been adopted for a range of functions and facilities which will impact on the Jervis Bay Region.

The Community Plan was developed with input from relevant government authorities, and provides shared responsibility and resources. Specific objectives in the action areas of transport, information/communication, community facilities and services, strategic planning and health have been developed for the following target groups:

- General community;
- Children;
- Young people;
- Older people;
- People with disabilities;

- Women;
- Aboriginal people;
- Families; and
- People from culturally and linguistically diverse backgrounds.

Whilst it would be ideal for the Jervis Bay Region to be self supporting in the provision of community facilities and services, the viability and population threshold of some services will dictate that many will remain administratively focused in the Nowra/Bomaderry area servicing other areas of Shoalhaven as well.

The improvement of transport opportunities to and from the Region to Nowra and Bomaderry for these services is a more realistic goal.

Council will work closely with the other service providers (eg Department of Education & Training, Department of Community Services, and Illawarra Area Health Service) in implementing the Community Plan to ensure that future population growth can be accommodated and, where possible, enhance service delivery in the Region.

COMMUNITY SERVICES AND FACILITIES

Objective - To ensure that adequate community services and facilities are provided for each settlement.

Actions

- i. An assessment to identify the current and likely future level of service (ie. community and recreation resources) for each settlement will be conducted in light of the settlement hierarchy adopted by this Strategy and the proposals contained within existing Council strategies and plans (eg Section 94 Plan, Community Plan, Recreation Strategy etc).
- ii. Services and facilities that require upgrading or provision will be identified and, where appropriate, will be provided in Council's Section 94 Plan and relevant State Government programs.
- iii. The provision of services and facilities will be monitored, and the Community Plan regularly reviewed to ensure it is meeting the changing needs of the community.
- iv. Relevant community services actions of the Shoalhaven Housing Strategy will be implemented.

Implementation Responsibility

Council and relevant State Government Agencies

Timeframes for Implementation

- i. Short term
- ii. Short term
- iii. Ongoing
- iv. Ongoing

10.9 Economic Development & Tourism

Economic Development

Economic development is an important component of any settlement strategy because there is a need for the Jervis Bay Region to have a vibrant and diverse economy for it to survive. The major economic contributor to the local economy is tourism, which is discussed further below. Other principal economic generators in the Region are:

- naval Avionics and associated private industry in conjunction with HMAS Albatross*;
- the boat building industry;
- light industry at Woollamia Industrial Estate;
- local retailing services;
- commercial fishing;
- educational services, which combined employ approximately 300 people;
- specialty and boutique agriculture in the Woollamia-Falls Creek area;
- forestry; and
- conservation agencies, including the NSW NPWS, Marine Parks Authority, and Booderee National Park*.

* Although HMAS Albatross and Booderee National Park are not located within the study area of this Strategy, they are significant contributors to the Region's economy and have been included in this Section due to their strong links in the Region.

It is beyond the scope of this Strategy to comment on each of the above industries in detail. Specific comment on the provision of boating facilities is provided, as is a discussion of two major new projects being investigated for the Region - a marine hatchery/aquaculture research facility, and the SEALab proposal for Huskisson.

Provision of boating facilities to the Region

The future population base of the Region will require sustainable economic opportunities in the long term, and one issue that has been discussed at some length is the future of Huskisson as the tourist gateway to Jervis Bay.

There is a need for an improved boating interface in the Region for pleasure craft, the commercial fleet, and the boat building industry. Given the sensitivity of the environment there is also a need for improved refuelling and effluent management facilities.

The size, type, and location of these facilities should be the subject of detailed investigation, and requires further discussion between the NSW Government, Council, and the community. In this regard, a broad assessment to address the infrastructure requirements of waterway users on the south coast of NSW is required, and the needs of this Region should be given due consideration as part of this assessment.

Marine hatchery/aquaculture research facility

NSW Fisheries is currently undertaking a review of coastal sites in Shoalhaven to assess their suitability for the establishment of a marine hatchery/aquaculture research and development facility. Kinghorn Point, which is within the Jervis Bay Region, has been identified among a range of others as a potentially suitable site for such a facility.

There are however, a number of significant natural and cultural values associated with Kinghorn Point and any proposal for a hatchery/research and development facility will be required to avoid significant impacts on known regionally significant vegetation, threatened species and Aboriginal cultural heritage values, and be consistent with Government policy objectives for the NSW Coast (NSW Coastal Policy, SEPP 62 - Sustainable Aquaculture, SEPP 71 - Coastal Protection).

SEALab proposal

The University of Wollongong, in conjunction with Council and the Commonwealth and NSW Governments, is investigating the establishment of a new centre for marine and coastal research in south-eastern NSW to be located within the Jervis Bay Region. A site for the proposed South East Australian Laboratory for Ocean and Coastal Research (SEALab) has been identified and is currently being investigated at Huskisson.

The SEALab will provide a centre for ongoing marine research, administration, and management facilities for government authorities (eg. Marine Parks Authority) in the Region. There is also the need in the longer term to investigate the potential development of a marine environmental interpretive and education centre in the Region to build on the area's natural environmental focus.

Tourism

Tourism is a major industry in the Jervis Bay Region, as well as the whole of the Shoalhaven Local Government Area. Jervis Bay, in particular, is an icon tourist destination for the south coast of NSW, with approximately 750,000 visitors per annum staying an average of 2.25 visitor nights. Tourism in the Region is largely seasonal - most tourists travel to the Region during school holiday periods between October and April - and many visitors undertake day trips to the area. A wide variety of accommodation services are available in the Region, and include holiday houses, flats, cabins, and caravan parks.

Tourism contributes approximately \$384 million to the economy for the entire City. Precise figures for the Jervis Bay Region are not available at the preparation of this Strategy, however, it is reasonable to state that the Jervis Bay is major contributor due to its outstanding natural and cultural values.

The Jervis Bay National Park has been acknowledged as a key Regional Destination in the Draft National Parks and Wildlife Service Tourism and Recreation Strategy. Booderee National Park within the Commonwealth Territory is also an established major tourist attraction in the Region.

Appropriate tourism development in the Region should continue to be fostered and encouraged in order to build on the range of experiences and

services that are currently available. There are some very large land holdings remote from settlements, which are unsuitable for residential use but may be considered as sites for major new tourist facilities such as golf courses, resorts and the like. Two such sites have been identified in the Strategy:

Former pine forest - Jervis Bay Road, Huskisson Road.

Located at the intersection of Jervis Bay Road and Huskisson Road, the following principles need particular consideration in any future development of this site:

- buffers to the habitat corridor/bushfire protection;
- identification of the wetland and appropriate buffers;
- identification of watercourses and buffers;
- identification of areas of native vegetation and assessment of significance;
- water quality/stormwater controls and the protection of headwaters to Moona Moona Creek; and
- access/proximity to Jervis Bay National Park (eg bushfire and operational).

Comberton Grange

Land to the east of the Princes Highway north of Currumbene Creek in the Falls Creek area is owned by the Council and is known as Comberton Grange. At the preparation of this Strategy, there is a proposal to establish a specific special-purpose Tourist/Residential village at this site.

The major issues associated with future development of Comberton Grange for tourist use are:

- effluent disposal;
- road access;
- impact on the Comberton Grange Quarry;
- proximity of development to Currumbene Creek in terms of water quality impacts; and
- threatened species/native vegetation.

Development may require a reticulated sewerage scheme, and access onto Forest Road should be considered in preference to the Princes Highway. The servicing requirements of any future development (reticulated water, sewerage, electricity etc) should be fully funded by the development itself.

If the current proposal does not proceed, and the area is found to be physically capable of some development, it should be reassessed having regard to the principles and actions identified in this Strategy.

ECONOMIC DEVELOPMENT AND TOURISM

Objective - To ensure the local economy complements and is responsive to the Region's cultural and natural environment.

Actions

i. Funding opportunities for the preparation of an economic development strategy for the region will be explored. Such a strategy would seek to identify and examine: existing economic activity in the region; strategic issues and locations; key opportunities and shortfalls for future economic activity; and measures to implement actions that are consistent with the guiding principles and policy actions of this Strategy.

ii. Economic activity that focuses on, complements, and is responsive to the marine and natural resources of the Region will be promoted through, amongst others, the following industries:

Eco-tourism, aquiculture/hydroponics, avionics (based around HMAS Albatross), marine research, boutique tourist based agriculture and forestry.

iii. Access to the region's water bodies for tourist activities will be investigated by a strategic assessment of boating facilities, including a boat harbour, servicing the Jervis Bay region, in the context of the greater coastal setting of the south coast of NSW.

iv. The potential of developing a marine environmental interpretive and education centre in the region will be investigated.

v. The following important strategic sites within the Region will be further investigated as follows:

Pine Forest - investigate capability of area to sustain longer-term demand for tourist/urban uses in accordance with existing zoning.

Kinghorn Point - determine the suitability of the site for the establishment of a marine hatchery/aquaculture research and development facility as part of the overall review of potential sites in Shoalhaven for such uses.

Comberton Grange - Continue investigation of capability and suitability for special purpose tourist/residential use.

Implementation Responsibility

Council, DIPNR, and relevant State Government Agencies

Timeframes for Actions

- i. Short to medium term
- ii. Ongoing
- iii. Short term
- iv. Medium term
- v. Medium to long term

10.10 Timing, Staging and Monitoring

Timing of development in the Region

The timing of development needs to be considered when managing and planning future settlement in the Jervis Bay Region. There are two views on how to time the release or development of new residential areas:

Development/Demand Driven

Developers generally argue that they should determine timing for the release of land, on the basis that they put capital at risk and need to be able to react quickly to market forces. They wish to sell as much as the market can absorb, thus providing certainty for their financial planning and minimising risk and holding costs. If the release of land is delayed, the feasibility of major developments may be jeopardised.

Service Driven

In contrast government agencies responsible for spending public funds to provide services need to be able to plan the provision of facilities to meet the service needs of residential development. The agencies often need substantial lead times to acquire land to plan and build required facilities. As such they generally prefer a clear indication of when development is likely to occur and where.

As indicated in Section 3 of the Strategy, there appears to be sufficient existing zoned land in the Region to accommodate population growth for the next five years, up to 2008. In the northern part of the Region (Area 2) there will be a need for additional zoned land, given that the future of the Culburra Beach urban expansion area is unknown. In the southern part of the Region (Area 3) additional development may be required to satisfy demand in the short term to 2006/2007 and beyond.

The development of areas identified in this Strategy will be supported in principle subject to the findings of the required detailed investigations undertaken during the rezoning process. It is acknowledged that this detailed investigation and rezoning process may take some time, and will ultimately determine the release of land.

Priorities for investigating new residential development in the Region

Area 2

1. Given the uncertainty of the Culburra Beach urban expansion area there will be a need to investigate the proposed urban expansion area at Callala Bay (including resolving the nearby small lot rural subdivision) in the short term.

Area 3

1. Investigate in detail and subdivide the existing zoned urban release area at Vincentia in the short to medium term.
2. Investigate and zone the proposed urban expansion at St Georges Basin in the medium term (2006 and beyond).

Priorities for investigating rural residential development in the Region

The demand for rural residential lots in the Region is uncertain, and there are likely to be limited opportunities for this form of development in the future. The two options as outlined in the Strategy (see Section 10.4) involve investigating increased densities in the existing rural residential “deferred” areas, and the possible release of limited new rural residential areas. The ultimate availability and timing of two of the areas to be investigated for new rural residential use (Jerberra Estate, Nebraska Estate) is uncertain as they are existing “small lot rural subdivisions”. The Worroring rezoning should be finalised, and detailed investigations into the existing areas of Wollamia-Falls Creek and Tomerong should commence in the short-medium term.

Small Lot Rural Subdivisions

Options for resolving the future of these subdivisions are detailed in Section 10.5 of the Strategy. It is difficult to plan for the future timing and resolution of these subdivisions, as there are additional detailed investigations to be completed and other factors such as financing to be resolved.

Other Development

The Strategy also details other potential developments that are not strictly residential or rural residential in nature. These have been included in the Strategy to provide fullness of vision and because they are related to the growth of the Region (see Section 10.9 Economic Development and Tourism). These development opportunities will require detailed consideration and investigation if they are to proceed, and their timing will largely be demand driven.

Urban renewal initiatives

As indicated earlier in the Strategy, the extent and capacity of the Jervis Bay Region to accommodate additional settlement will ultimately be determined by the Region's environmental constraints and the need to protect its special qualities. It is likely that within the next 20 years (2023) there will be limited opportunities for additional outward residential and rural residential growth. Council and the community will therefore need to consider alternative settlement scenarios for the future, including policy initiatives and design principles to manage urban renewal and consolidation, and its impact or otherwise on the character of Jervis Bay.

Monitoring and implementation

Council and the NSW Government will ensure that this Strategy is appropriately monitored and reviewed through time to ensure that it responds to new information and adopts an adaptive approach to continued settlement in the Region. In order to achieve this, Council and DIPNR will put in place appropriate arrangements to coordinate and monitor the progress and implementation of the Strategy.

The principle of staging development with monitoring and analysis before further development proceeds is a mechanism which has been recommended by the Commissions of Inquiry into Heritage Estates and Long Bow Point respectively, as a means to ensure that development in the Region is capable of meeting environmental performance standards.

Effective implementation of this principle is complicated where the level of infrastructure required for total development is most viably and practically provided at the initial stage. This could involve substantial upfront costs with no certainty that further development will proceed. There is therefore a need for reasonable scientific certainty at the approval stage.

Ultimately, it may be necessary for staged development to commence in less logical sectors to provide a precautionary and retrievable approach should scientific expectations not be realised.

TIMING, STAGING AND MONITORING

Objective - To ensure that development achieves performance benchmarks identified in this Strategy, and that an adaptive management approach can be implemented for new settlement in the region.

Actions

- i. New development will be staged and monitored in accordance with its scale, and potential environmental, social and economic impacts.
- ii. For large scale staged projects, policy mechanisms will be implemented to ensure that the commencement and completion of latter stages will be dependent upon environmental and other performance benchmarks being met by previous stages.
- iii. Council, DIPNR and other relevant state government agencies will commit to ensuring that the Settlement Strategy remains a live document that is responsive to new information and adopts an adaptive approach to managing settlement in the region. In order to achieve this, Council and DIPNR will ensure that appropriate arrangements are in place to monitor the progress and implementation of this Strategy.
- iv. Council and DIPNR will keep the Jervis Bay Settlement Strategy under periodic review. The purpose of this review is to ensure that the Settlement Strategy objectives and actions remain current and relevant, and that future settlement in the region can be undertaken mindful of the outcomes achieved during the life of this Strategy.

Implementation Responsibility

Council, DIPNR, and relevant State Government Agencies

Timeframe for Actions

- i. Ongoing
- ii. Ongoing
- iii. Short term
- iv. Ongoing

Section D - The Way Forward

11. Strategy Principles Plan

The Strategy Principles Plan (Map 10) outlines the broad features of the Strategy and should be read in conjunction with the objectives, actions, responsibilities and timeframes for implementation that are the basis of this document.

The Strategy Principles Plan illustrates the proposals presented and discussed in Sections 10.2 (Residential Development), 10.3 (Urban Renewal), 10.4 (Rural Residential Development) and 10.5 (Small Lot Rural Subdivisions). Maps 10A to 10I are extracts of the Strategy Principles Plan and show these proposed areas at a larger scale. These proposals represent areas of potential new settlement in the Region that will be subject to detailed investigation, as set out in the Strategy.

The “conservation areas” identified on the Strategy Principles Plan represent a compilation of land tenure and existing planning controls identified on Maps 7 (Planning Controls) and 8 (Land Ownership).

Those areas on the Strategy Principles Plan that are not identified as conservation area, existing urban zoned area, or are covered by a specific Strategy proposal are shown as white or unshaded on the plan and retain their existing zoning under Shoalhaven LEP 1985. These areas may or may not have conservation and habitat value.

12. Strategy Implementation

Council and the NSW Government will continue to work together to implement the Strategy. The immediate implementation priorities of the Strategy have been outlined in Section 10.10.

It should be noted that the various objectives, actions and implementation responsibilities may ultimately dictate the nature and timing of settlement outcomes and results from this Strategy. For example, a detailed environmental study and draft LEP will need to be prepared in accordance with the provisions of the *Environmental Planning & Assessment Act 1979* before any land not currently zoned for residential purposes is considered for such a use. Each area identified in the Strategy Principles Plan will have unique and particular issues to investigate and resolve as part of the planning process.

As outlined in Section 7, there will be continued and ongoing opportunities for public involvement in the rezoning and other detailed processes that follow the release of the Strategy.

Council and the NSW Government will also ensure that the Strategy is appropriately monitored and reviewed through time to ensure that it responds to new information and adopts an adaptive approach to continued settlement in the Region. To achieve this Council and DIPNR will put in place appropriate arrangements to coordinate and monitor the progress and implementation of the Strategy.

Finally it will also be necessary to consider the implications of the NSW Government’s PlanFIRST Regional Strategy, currently in preparation, and the outcomes of the NSW Coastal Protection Package during the implementation of the Strategy.

13. Conclusion

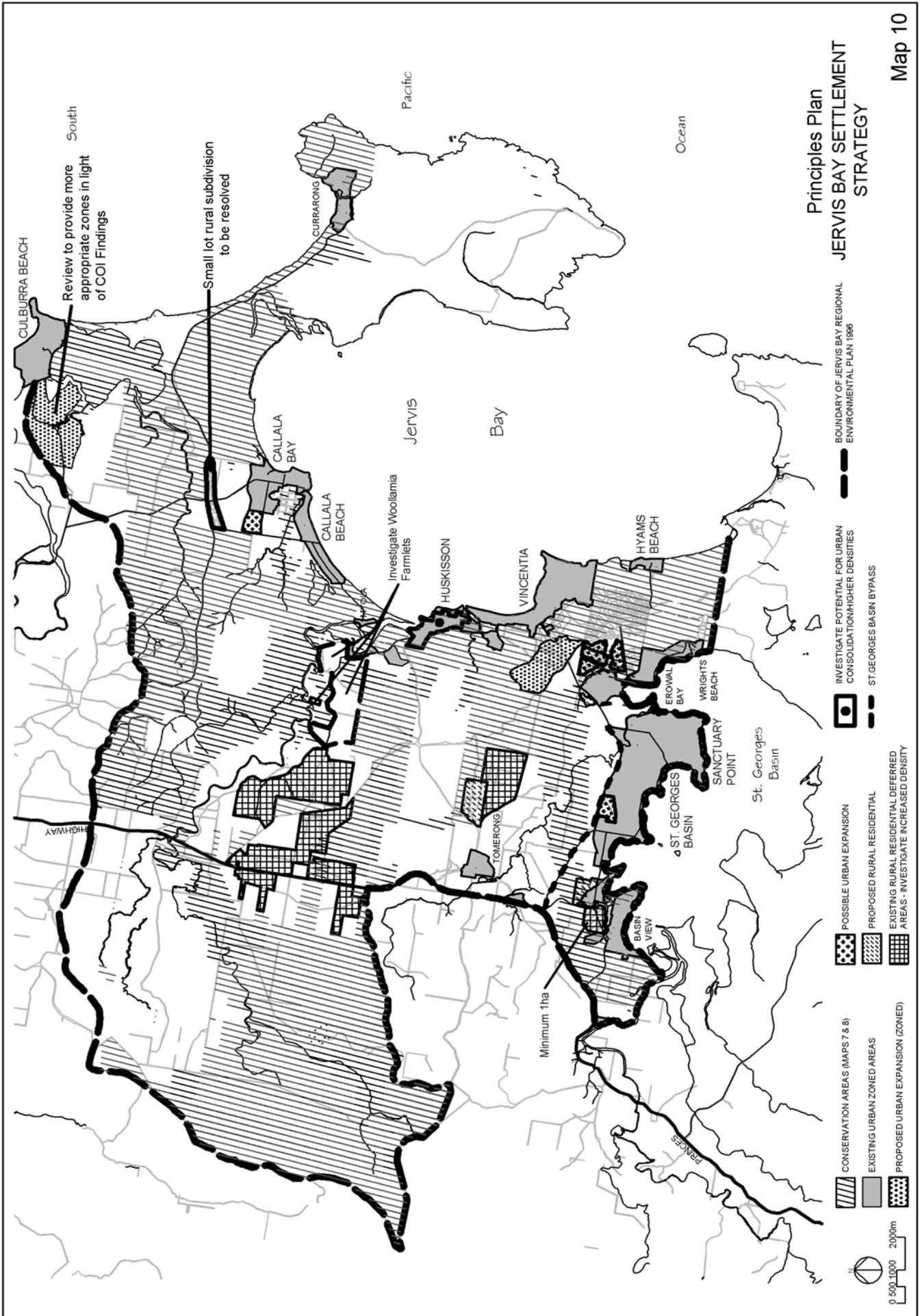
The Jervis Bay Region is widely recognised as a place of great significance because of its unique environmental and cultural values. This significance makes it a popular place to both live and visit, and, as a result, the Region has experienced consistent population growth in recent years. There are substantial challenges ahead in managing future settlement and growth for Jervis Bay.

This Settlement Strategy will help guide future development and conservation of the Region into the future to at least 2023. The Strategy does not itself rezone land for development, however, it identifies broad areas for consideration and sets clear principles and outcomes to guide future development in the Region. Various issues that are outlined will need to be addressed as part of more detailed rezoning processes for each area. The Strategy also presents clear options to manage rural residential development in the Region, and a context to resolve the longstanding issue of small lot rural subdivisions.

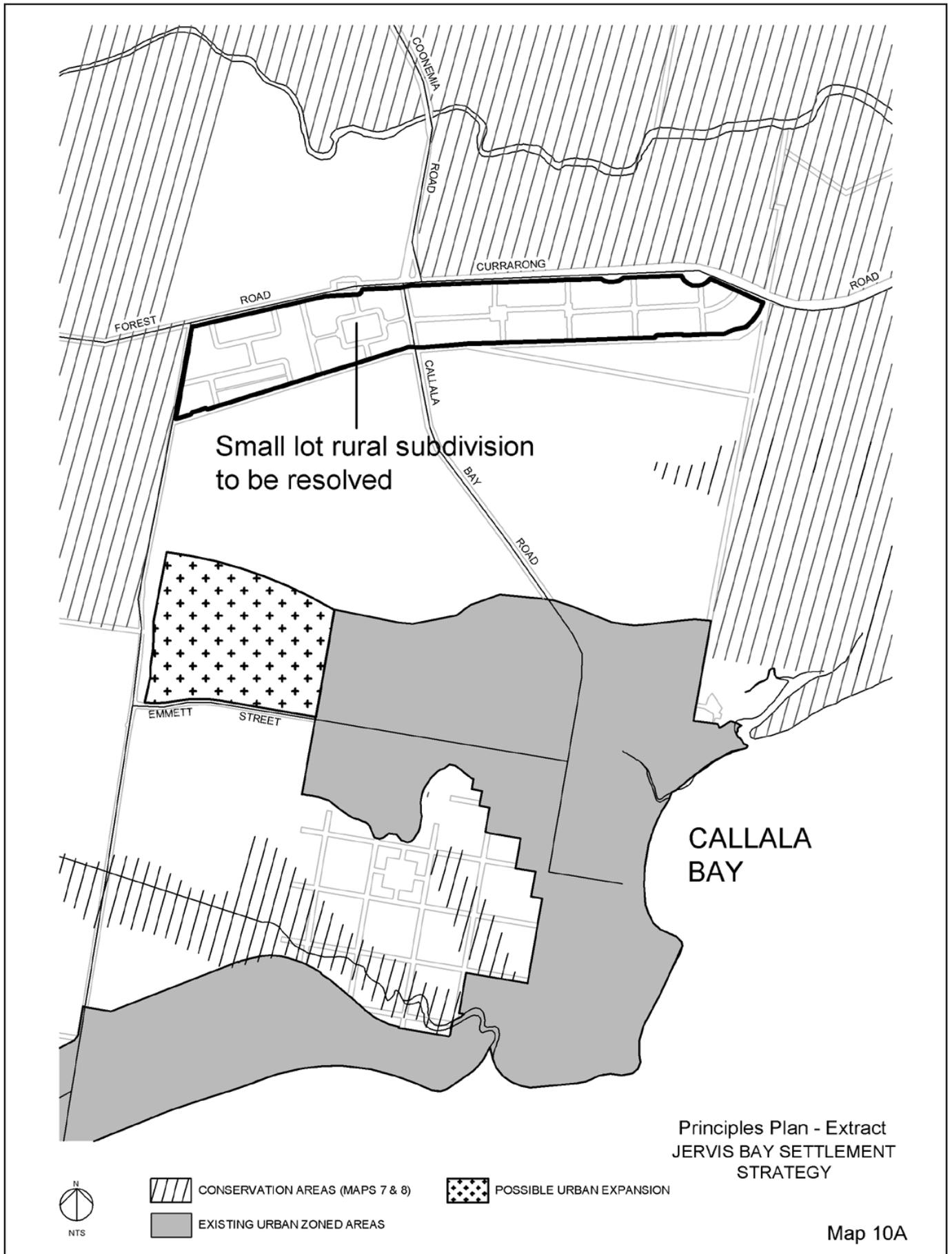
In light of the Region's natural and cultural values, its servicing and infrastructure constraints, and the character of existing towns and villages that make Jervis Bay an attractive place to live, there will be limited opportunities to continue to expand existing urban areas into the future to accommodate residential growth. Policy options to manage growth under alternate settlement scenarios that are in keeping with the locality character of Jervis Bay (including design principles for urban renewal and consolidation initiatives) will need to be considered and addressed by all parties with an interest in the future of this unique Region.

Jervis Bay SETTLEMENT STRATEGY

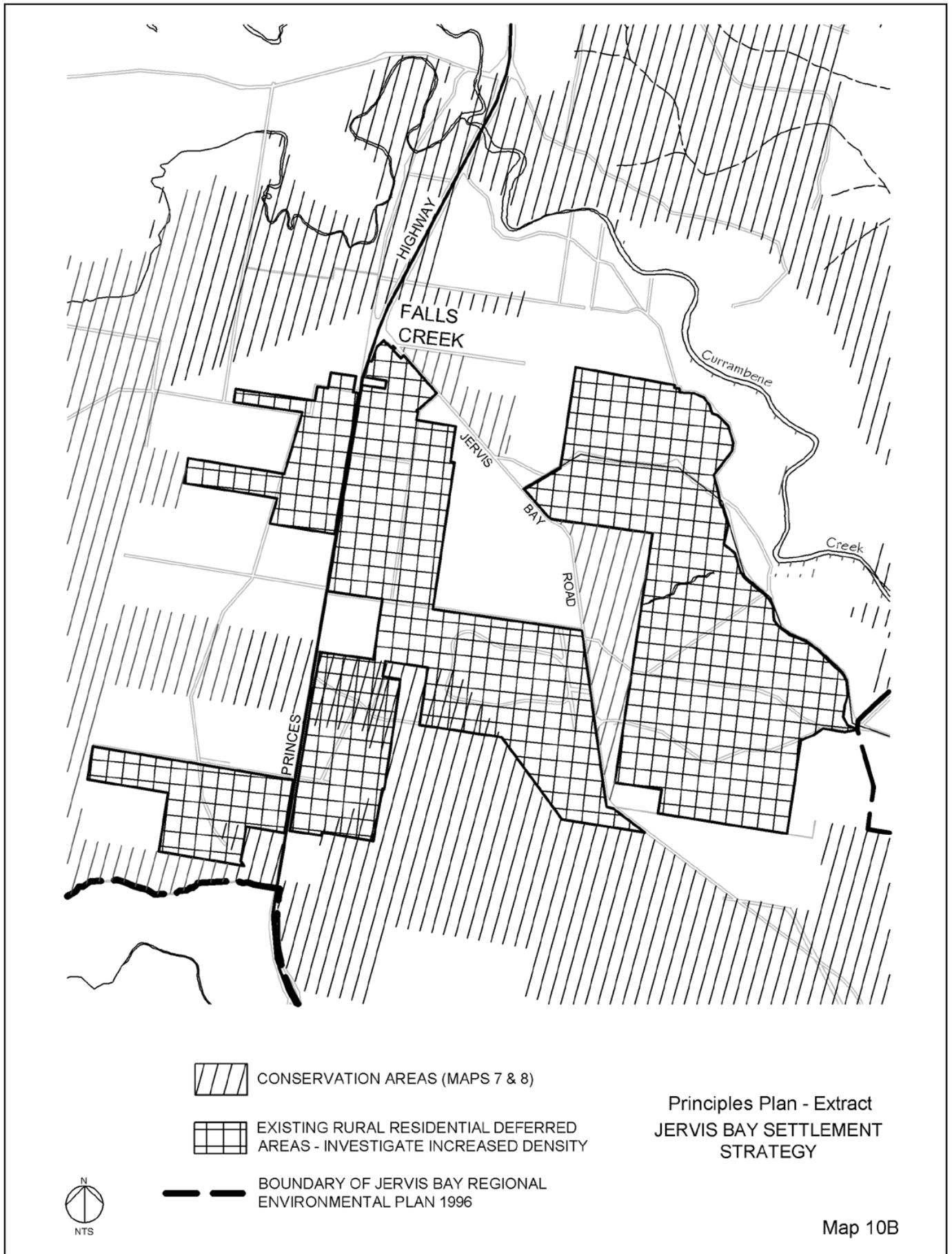
Map 10—Settlement Principles Plan



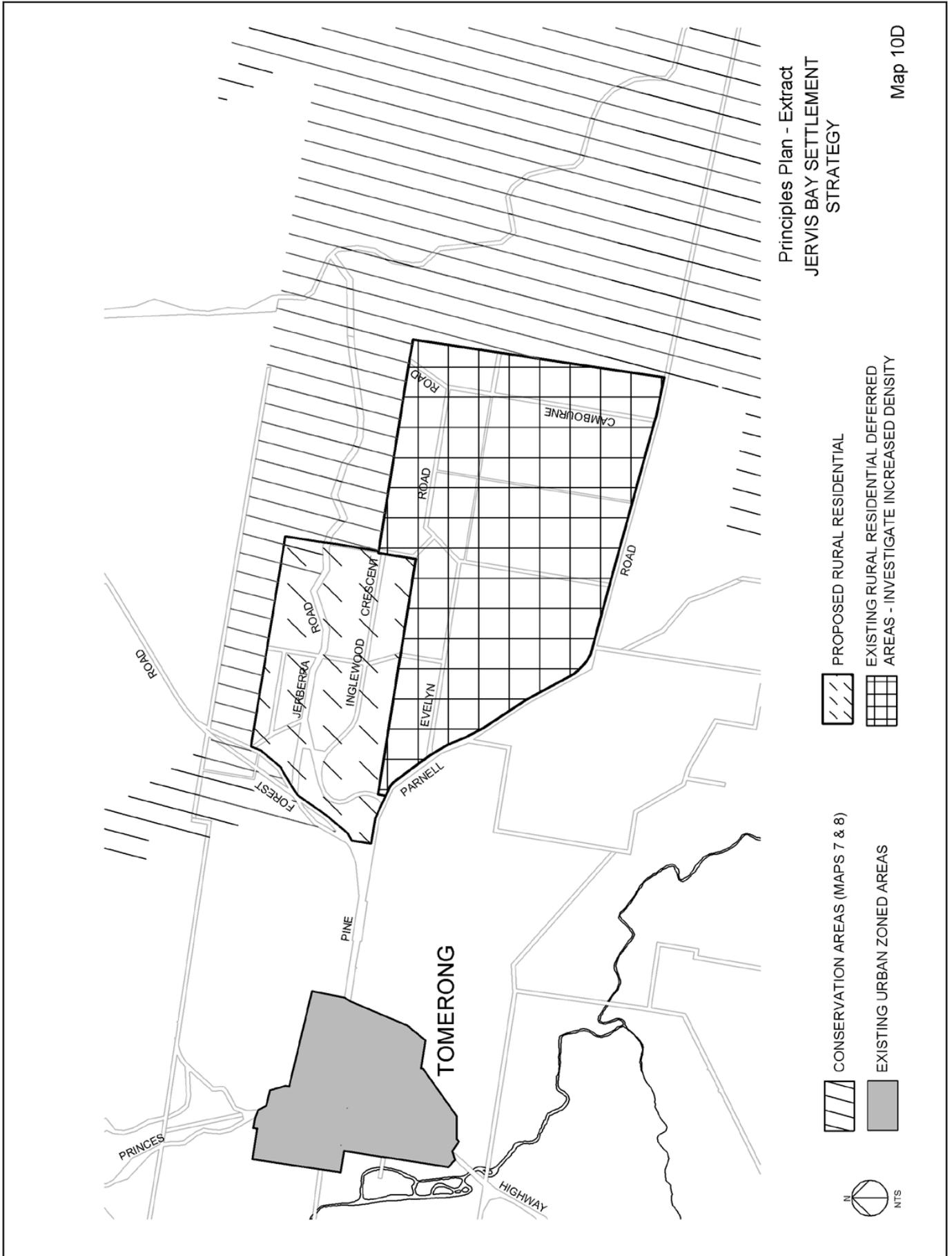
Detail Map 10A - Callala Bay/Callala Beach



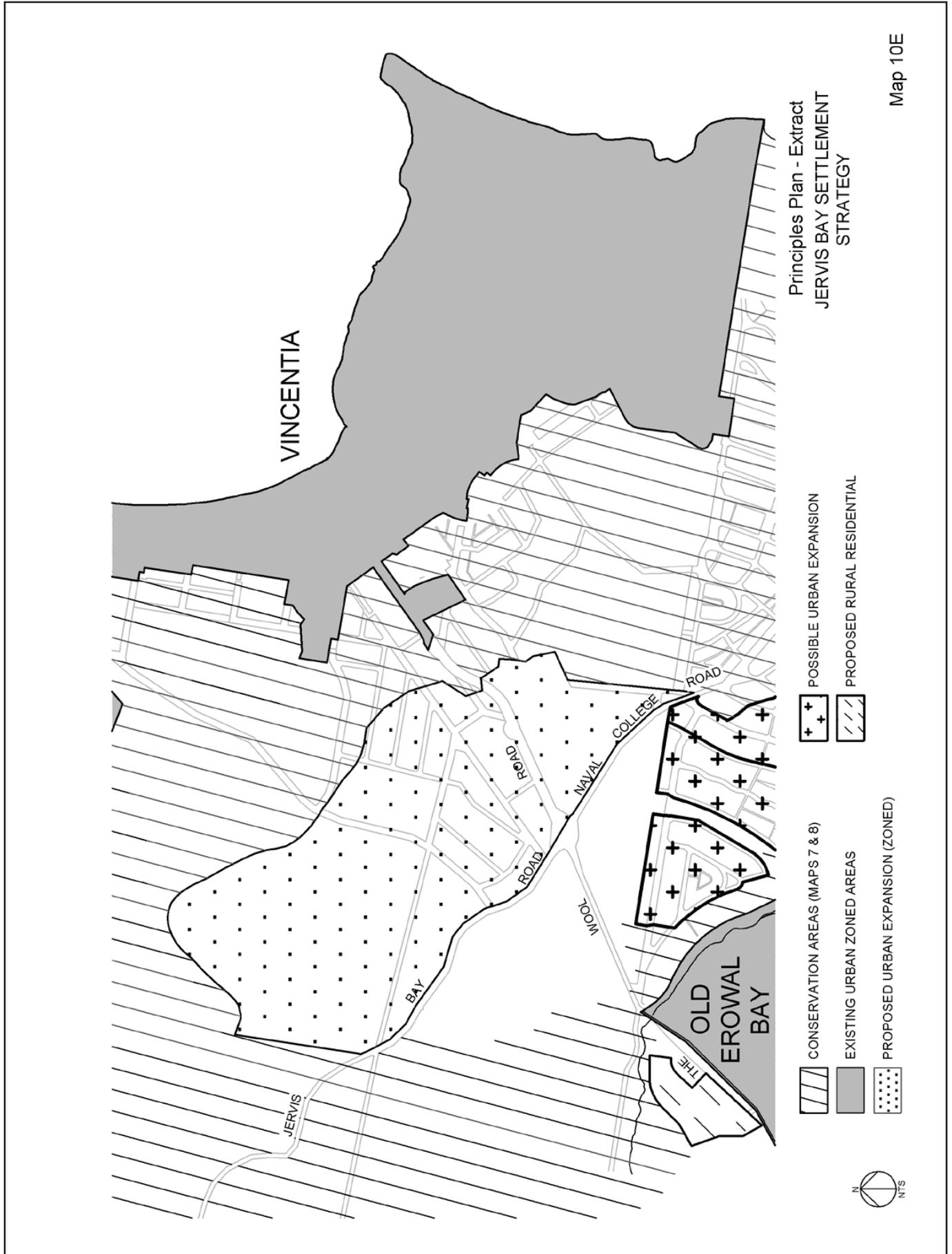
Detail Map 10B - Woollamia/Falls Creek Rural Residential Deferred Areas



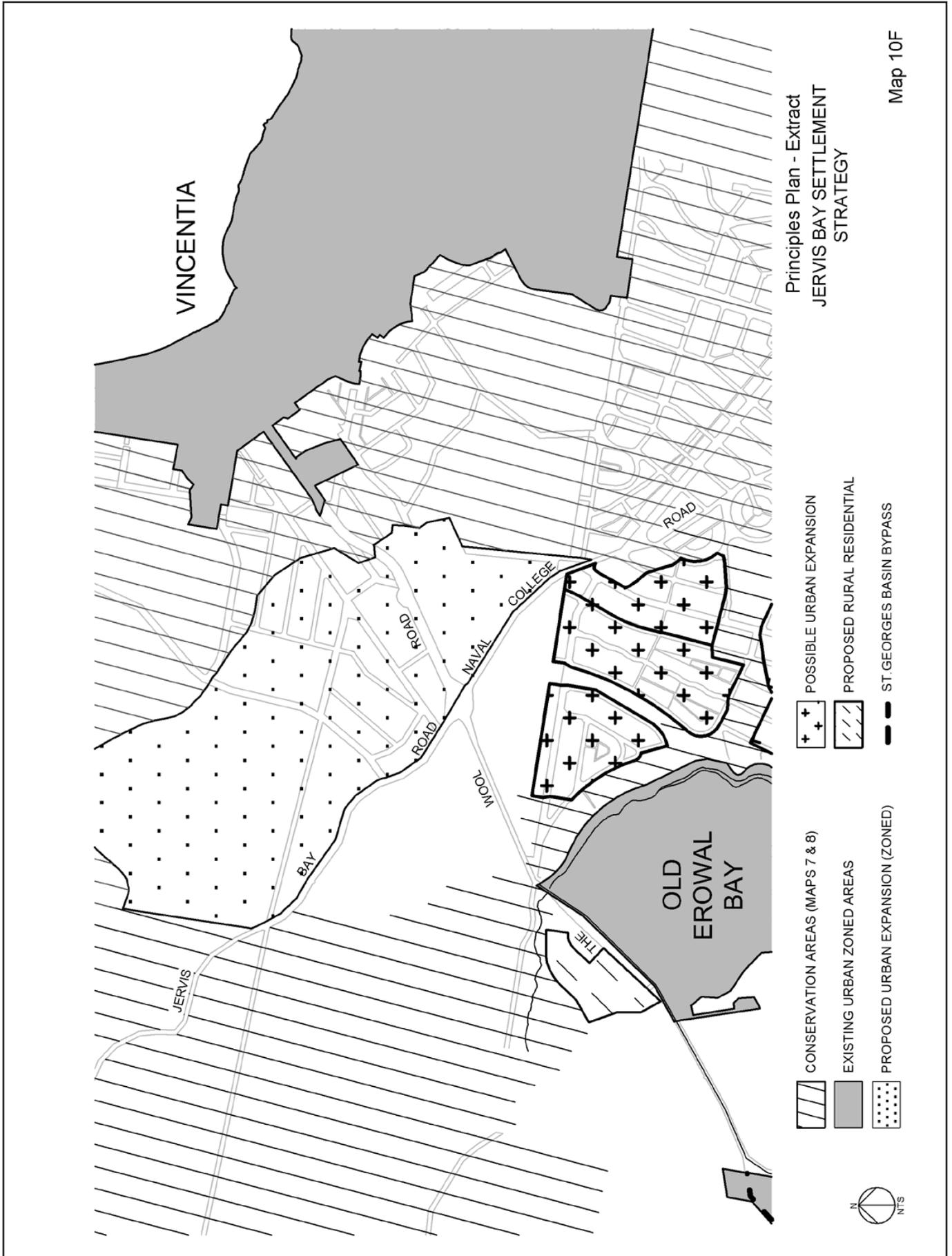
Detail Map 10D - Tomerong Rural Residential Deferred Area and Jerberra Estate



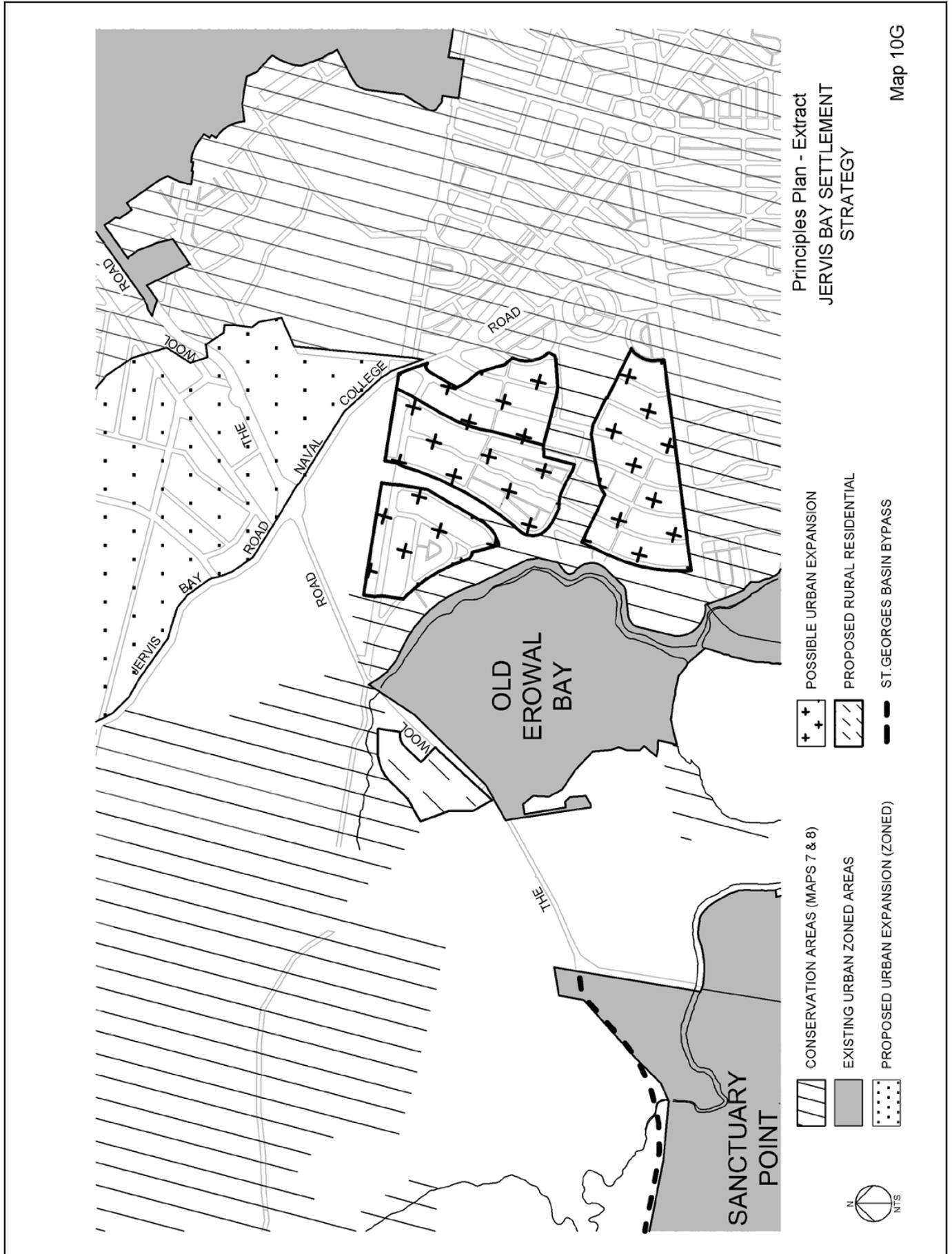
Detail Map 10E - Jervis Bay District Centre



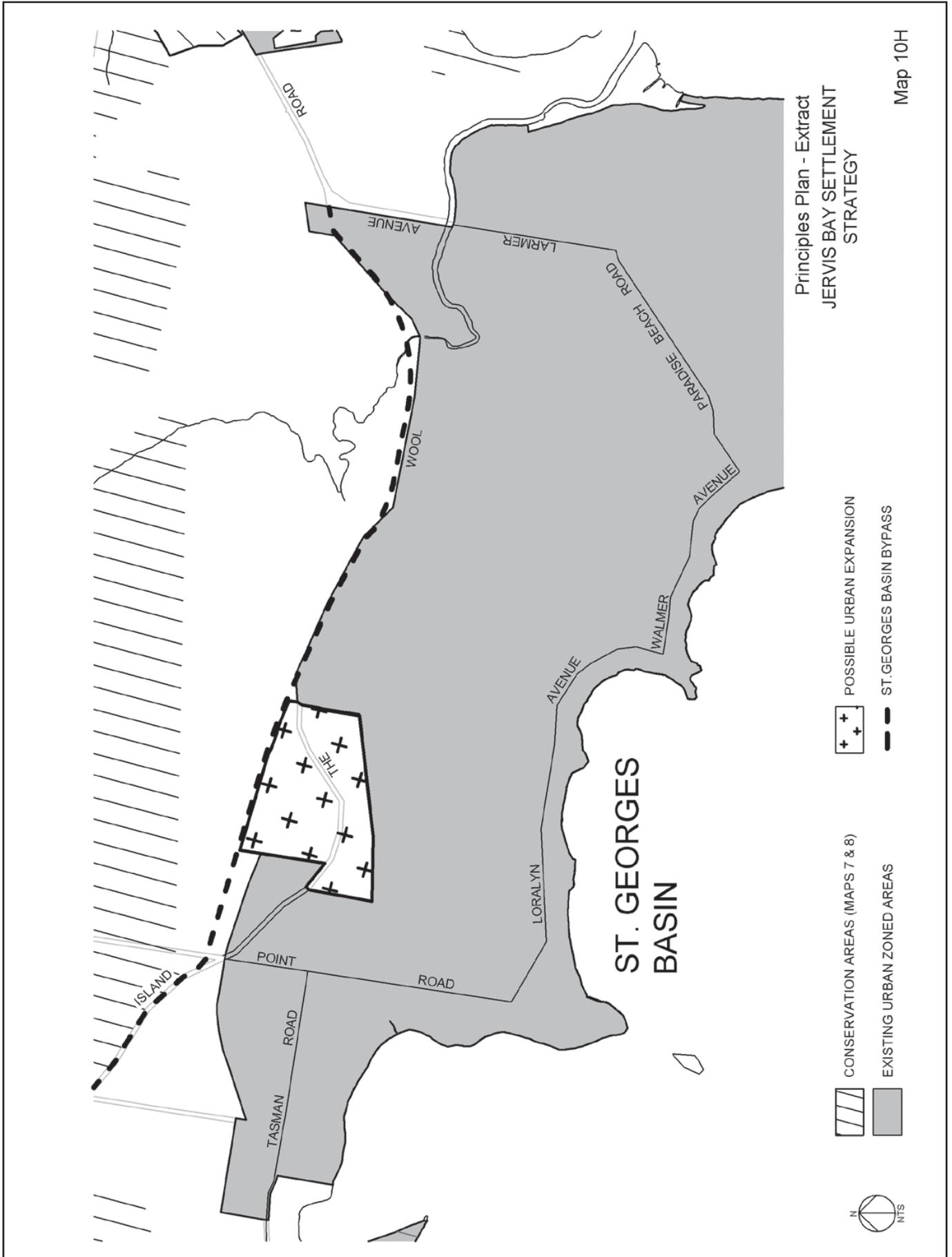
Detail Map 10F - Heritage Estates



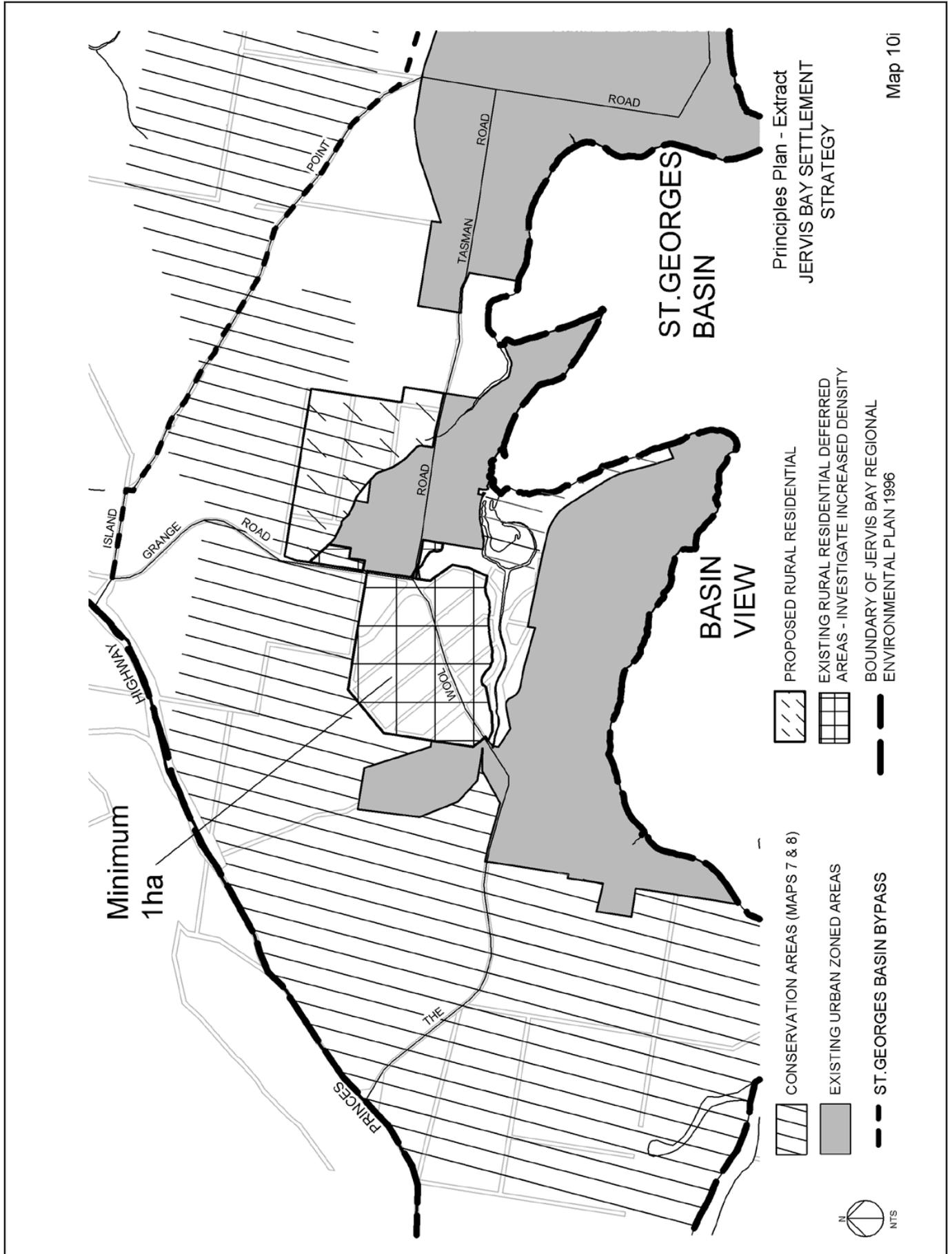
Detail Map 10G - Heritage Estates and Worrowing



Detail Map 10H - Sanctuary Point/St Georges Basin



Detail Map 10I - Basin View



Map 11 - Heritage Estates Commission of Inquiry Detail



RECOMMENDATIONS

1. COUNCIL GIVE APPROPRIATE CONSIDERATION TO INCLUDING THE HERITAGE ESTATE LAND IN THE DRAFT JERVIS BAY SETTLEMENT STRATEGY SUBJECT TO THE FINDINGS AND RECOMMENDATIONS OF THIS REPORT.
2. COUNCIL DELAY PREPARING A DRAFT LOCAL ENVIRONMENTAL PLAN TO REZONE PART OR ALL OF THE HERITAGE ESTATE LAND UNTIL AFTER COUNCIL HAS PREPARED AND EXHIBITED A DRAFT JERVIS BAY SETTLEMENT STRATEGY.
3. COUNCIL NOT PREPARE A DRAFT LOCAL ENVIRONMENTAL PLAN TO REZONE PART OR ALL OF THE HERITAGE ESTATE LAND UNLESS THE LAND IS INCLUDED IN A CURRENT JERVIS BAY SETTLEMENT STRATEGY.
4. ANY LAND ON THE HERITAGE ESTATE CONSIDERED SUITABLE BY COUNCIL FOR RESIDENTIAL DEVELOPMENT AND INCLUDED IN A CURRENT SETTLEMENT STRATEGY BE ZONED RESIDENTIAL 20/1 AND ANY LAND HAVING FAUNA HABITAT AND WILDLIFE CORRIDOR VALUE AS GENERALLY SET OUT IN OPTION 4 BE ZONED FOR ENVIRONMENTAL PROTECTION.
5. THE IMPORTANT FAUNA HABITAT AND WILDLIFE CORRIDOR VALUES OF THE HERITAGE ESTATE LAND BE PROTECTED BY LIMITING ANY FUTURE RESIDENTIAL DEVELOPMENT ON THE LAND GENERALLY TO OPTION 4 YIELDING A MAXIMUM OF 130 LOTS WITH 730 DWELLINGS.
6. ANY FUTURE RESIDENTIAL DEVELOPMENT ON THE HERITAGE ESTATE LAND BE STAGED IN ACCORDANCE WITH FIGURE 7.8 IN THE PATTERSON BRITTON REPORT ADAPTED TO OPTION 4 EXCEPT THAT STAGE 2 BE THE FINAL STAGE DEVELOPED DUE TO ITS LOCATION LARGELY WITHIN CLOSED SEDGELAND AREAS.
7. THE DISCHARGE OF WATER POLLUTANTS FROM THE HERITAGE ESTATE LAND BE CONTROLLED TO THE REQUIREMENTS OF THE ENVIRONMENT PROTECTION AUTHORITY (EPA) FOLLOWING A COMPREHENSIVE MONITORING PROGRAM OF CURRENT RUN-OFF WATER QUALITY TO ENSURE THERE IS NO NET INCREASE IN THE AVERAGE ANNUAL POLLUTANT LOAD LEAVING THE HERITAGE ESTATE LAND COMPARED WITH THE EXISTING POLLUTANT DISCHARGE LOAD.
8. WATER VOLUME RATE DISCHARGES FROM THE HERITAGE ESTATE LAND BE CONTROLLED TO THE REQUIREMENTS OF THE EPA TO REFLECT EXISTING WATER VOLUME RATE DISCHARGES.
9. BEFORE ANY RESIDENTIAL DEVELOPMENT IN CLOSED SEDGELAND AREAS IS CONSIDERED FOR INCLUSION IN A SETTLEMENT STRATEGY:
 - * THE PRESENCE OR NOT OF ACID SULPHATE SOIL BE CONFIRMED AND APPROPRIATE MANAGEMENT PROTOCOLS IMPLEMENTED TO THE REQUIREMENTS OF THE DEPARTMENT OF LAND AND WATER CONSERVATION (DLWC).
 - * THE QUALITY OF GROUNDWATER DRAINAGE FROM THE CLOSED SEDGELAND AREAS BE ASSESSED IN ACCORDANCE WITH THE NO NET INCREASE IN POLLUTANTS LEAVING THE SITE GOAL TO THE REQUIREMENTS OF THE EPA IN CONSULTATION WITH DLWC.
10. THE HERITAGE ESTATE LANDOWNERS PAY THE FULL COST OF PROVIDING INFRASTRUCTURE AND DEVELOPING THEIR LAND AND THAT INDIVIDUAL LANDOWNERS BE RESPONSIBLE FOR THE COST OF ANY GROUNDWATER DRAINAGE REQUIRED FOR THEIR INDIVIDUAL LOTS.
11. BIRRIKA AVENUE NOT BE DEVELOPED AS A THROUGH ROAD BETWEEN JERVIS BAY ROAD AND THE WOOL ROAD.
12. THE HERITAGE ESTATE LANDOWNERS THEMSELVES BE RESPONSIBLE FOR COMPENSATION PAYABLE IF ANY, TO THOSE LANDOWNERS WHOSE LAND IS UNSUITABLE FOR RESIDENTIAL DEVELOPMENT OR REQUIRED FOR WATER POLLUTION CONTROL PONDS.

Heritage Estates
Recommendations of Commission of Enquiry
 JERVIS BAY SETTLEMENT STRATEGY

- ECOLOGICALLY SIGNIFICANT AREAS (NO DWELLINGS - TO BE ZONED ENVIRONMENTAL PROTECTION)
- STAGING (FOR SINGLE DWELLINGS ONLY - SUBJECT TO DETAILED INVESTIGATION IN CLOSED SEDGELAND AREAS)
- CLOSED SEDGELANDS
- POTENTIAL WETLANDS

GENERALLY OPTION 4 OF PATTERSON BRITTON REPORT APRIL 1998

1:15000

Map 11

Appendix 1 - Settlement Profile

There are a number of settlements in the study area as already mentioned.

Each settlement is shown on Map 2 and Table A lists each settlement and describes specific levels of service provision for each. A physical description of each settlement follows in Table B.

Table A: Summary of Services

Settlement	Shopping Centre	General Store	Post Office	Reticulated Water	Reticulated Sewer	Primary School	Community Centre	Tourist Accommodation#	Club	Playing Fields
Culburra Beach	✓		✓	✓	✓	✓	✓	B,M,CP,CC	✓	✓
Currarong		✓	✓	✓	*			B,CP,CC	✓	
Callala Bay	✓		✓	✓	✓	✓	✓	B,CC		✓
Callala Beach		✓	✓	✓	✓				✓	
Myola		✓		✓	✓			CP		
Huskisson	✓		✓	✓	✓	✓	✓	B,G,M,CP,CC	✓	✓
Woollamia		✓		✓				B,CP,CC		
Vincentia	✓		✓	✓	✓	✓+	✓	B,M,CC	✓	✓
Hyams Beach		✓		✓	✓			CC		
Wrights/Bream Beach				✓	✓			CP		
Erowal Bay		✓	✓	✓	✓			CC		
Old Erowal Bay		✓		✓	✓			CC		
Sanctuary Point	✓		✓	✓	✓	✓	✓	M,CP	✓	✓
St Georges Basin	✓		✓	✓	✓		✓	B,CP,CC		✓
Basin View	✓			✓	✓	✓				
Falls Creek		✓	✓			✓		CC		
Tomerong		✓	✓	✓		✓				

Notes:

* Sewer is not currently available but is being investigated.

+ The only High School in the area is located opposite the proposed District Centre site between Vincentia and Sanctuary point

@ This school is currently under construction.

B = Bed & Breakfast; G = Guesthouse; M = Motel; CP = Caravan Park; CC = Cabins & Cottages

Table B: Physical Attributes of Each Settlement

Settlement	Physical Attributes / Boundaries
Culburra Beach	Lake Wollumboola to the south, the east by the Ocean and to the west by areas of native vegetation.
Currarong	Proposed National Park to east and west, Crown land and the Beecroft Peninsular Naval area to the south.
Callala Bay	Jervis Bay to the south, Callala Creek wetlands to the west and Wowly Gully/ Proposed National Park and existing National Park to the east and native vegetation and a wetland to the north.
Callala Beach	Bounded by wetland to the north, Proposed National Park to the west and Callala creek wetland to the east and Jervis Bay to the south.
Myola	Proposed National Park to the east and north, Currambene Creek to the west and south.
Huskisson	Jervis Bay to the east, Currambene Creek to the north National Park/Proposed National Park to the west and south plus Moona Moona Creek to the south.
Woollamia	Currambene Creek to the east, rural residential/native vegetation to the west and Proposed National Park to the south.
Vincentia	Jervis Bay to the east, proposed National Park/National Park to the south and west and Moona Moona Creek wetland to the west.
Hyams Beach	Jervis Bay to the east and all other sides by National Park proposed National Park.
Wrights / Bream Beach	St Georges Basin to the west and all other sides by National Park. There is a small lot rural subdivision to the east of the built up area, which is covered by native vegetation.
Erowal Bay	St Georges Basin to the east and south. Native vegetation to the north and proposed National Park/ National Park to the east.
Old Erowal Bay	Worworing Creek to the east and south, native vegetation to the west and The Wool Road to the north with open farmland opposite.
Sanctuary Point	St Georges Basin to the south, east and west, The Wool Road/Island Point Bypass and native vegetation/ Tomerong Creek to the north.
St Georges Basin	St Georges Basin to the south and west, Sanctuary Point to the east and native vegetation/Cockrow Creek to the north.
Basin View	St Georges Basin to the South, Corramy State Recreation Area to the east, rural residential and native vegetation to the north.
Falls Creek	Native vegetation and rural residential development on all sides with Parma Creek and tributaries to west and north.
Tomerong	Tomerong Creek and native vegetation to west, open farmland and hilly terrain on all other sides.

Appendix 2 - Culburra Beach Urban Expansion Area

Commission of Inquiry Findings and Recommendations.

The Minister for Planning established a Commission of Inquiry into the proposed initial 800 lot subdivision at Long Bow Point within the expansion area. Under Section 101 of the Environmental Planning & Assessment Act 1979 the Minister became responsible for determining the development application.

The Inquiry commenced in 1996 and was completed in 2000. In his findings the Commissioner indicated that:

- The site is an area of high biodiversity;
- Threatened and endangered fauna have been found on the site;
- Development will require clearing of 125 hectares of vegetation;
- Areas proposed to be cleared are of significant conservation value;
- Unacceptable impacts include loss of habitat, displacement of threatened fauna and likely loss of certain individual threatened species;
- Mitigation measures do not fully protect habitat of conservation value or threatened species;
- Habitat of conservation value should be protected and be preserved by exclusion from clearing and development;
- Lake Wollumboola is of high conservation value being of International, National, State and regional significance and requiring the highest level of protection from pollution or impacts;
- The Proposal will significantly increase pollutants in storm water runoff draining to the Lake;
- Mitigation measures, the proposed environmental protection zone and other initiatives are uncertain and unlikely to consistently meet predicted performance goals of no net increase in pollutants;
- The loss of lake water quality and lake habitat would be likely to adversely impact on fauna including important bird species;
- Local and regional economic and social benefits do not outweigh likely adverse impacts to Lake Wollumboola and to habitat and threatened fauna on the site;
- Lake odours adversely impact on existing residents and cannot be mitigated;
- Prevailing winds and nearby lake shallow locations are likely to make the site as susceptible, if not more susceptible to odours than the existing township;
- Overall mitigation measures and the amended development proposal will not prevent likely serious or irreversible environmental damage;
- The precautionary approach is to demonstrate uncertain predictions and control measures outside of the sensitive catchment (possibly in a stage of the applicant's future Culburra release area).

As a result the Commissioner recommended refusal of the proposal due to its unacceptable environmental impacts.

It was however indicated that a review of the overall planning controls is warranted to assist both the applicant and Government Agencies with integrating the Commissions precautionary and staged development approach in this sensitive and important environment.

The Minister for Planning's Decision.

The Minister subsequently refused the subdivision application in June 2000 for the following reasons:

- The proposal would result in the degradation of the water quality of Lake Wollumboola and significantly affect its habitat, recreation and ecological values;
- The proposed subdivision would result in the loss of critical habitat for endangered fauna;
- The proposed subdivision would expose people to the odours from the Lake and intensify calls to the State Government and Council to modify the Lakes hydrological regime; and

- The proposed subdivision fails to take into account the cumulative impact of the proposed six stage expansion of Culburra

In addition, the Minister considered that the proposed environmental management measures would not adequately protect the water quality of the Lake, critical habitat and endangered fauna.

The Minister in making his decision also accepted the Commissions recommendation that the land use planning and environmental management controls for the Lake and its catchment be reviewed with the landowners and community.

DIPNR have commenced the catchment planning review project for Culburra Beach and Lake Wollumboola.

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Jerwis Bay SETTLEMENT STRATEGY