

TOWARDS INTEGRATED COASTAL MANAGEMENT FOR SALDANHA BAY AND LANGEBAAN LAGOON, SOUTH AFRICA*

Jan Schrijvers**

1 Introduction

The ecologically varied 3200-km South African coastal zone is the focal point for virtually the whole spectrum of human activities and is subject to increasing development demands and urbanisation. This concern coupled with the changing socio-political environment in South Africa revealed the inadequacy of the existing Seashore Act (1935) to achieve sustainable coastal development through integrated coastal management.¹ As a matter of fact, the present Act only applies to areas below the high water mark.

A draft Coastal Policy White Paper was submitted in March 1999 as the product of an extensive process of public participation and specialist studies carried out through the Coastal Management Policy Programme (CMPP). This programme was launched by South Africa's Ministry of Environmental Affairs and Tourism and supported by the United Kingdom's Department for International Development. It is supposed to set out South Africa's future policy on coastal management in a new Sustainable Coastal Development Act.² Its starting point was the formulation of a vision for the coast of South Africa identified through extensive processes of involving interested and affected parties in regions around the coast of South Africa.³ One of these regions is the West Coast

* I am indebted to Jan Glazewski of the Institute of Marine Law, UCT, and to Merle Sowman of the Department of Environmental and Geographical Sciences, UCT, for their comments on a draft of this article. I am also indebted to Dr. John Largier of the Department of Oceanography, UCT, and to the Flemish Fund for Scientific Research in Belgium, who have given me the opportunity to tackle this issue.

** MSc (Gent) PhD (Gent) postdoctoral researcher ICZM, University of Gent, Belgium.

¹ See further J Glazewski 'Towards a coastal zone management Act for South Africa' (1997) 4 *SAJELP* 1.

² See generally CMPP *Draft White Paper for Sustainable Coastal Development in South Africa* as submitted by the Policy Committee to the Minister of Environmental Affairs and Tourism in March 1999.

³ See generally CMPP *Regional Vision Report* (1998).

stretching from the Olifants River mouth, at the boundary between the Northern Cape and the Western Cape Provinces, to Bokpunt, near Atlantis on the outskirts of the Cape Town Metropole (see map).⁴

In the meanwhile, however, development proceeds along this West Coast region. The West Coast Investment Initiative (WCII) is one of the Spatial Development Initiatives (SDIs) and focuses on the opportunities created by the mini mill of Saldanha Steel Operations (SSO) as well as the under-utilised opportunities in agriculture, mariculture, tourism and fishing in the region.⁵ The region's destiny is particularly coupled with Saldanha Bay, which is the naturally deepest and safest harbour in the country. Moreover, adjacent to the harbour is an area ideal for establishing the 1350 ha Saldanha Industrial Development Zone (SIDZ) that should enhance special facilitation of the control of imports and exports (see map).⁶

Whereas the White Paper for Sustainable Coastal Development in South Africa is still in progress, let alone the establishment of appropriate institutional and legal arrangements for its implementation, the WCII is in full action and the legal decision for the creation of the SIDZ and its regulations is now in the final stage of being formalised.⁷ Though regional in nature, the coastal character of the development initiative is likely to result in specific and local but possibly far-reaching, biophysical, infrastructural as well as socio-economic impacts on Saldanha Bay and the ecologically fragile Langebaan Lagoon.

Holistic management of these water bodies in the light of future development can only function, if the variety of legal and institutional conflicts and issues surrounding it, are properly identified, addressed and possibly resolved. The new Sustainable Coastal Development Act, when in place, will in fact still charge a diversity of departments and local authorities with many day-to-day responsibilities for coastal management.⁸

This article therefore provides an overview of the anticipated developments, the relevant legislative and institutional arrangements and the conflicts that might hinder effective local management of the coastal areas and resources of the Saldanha Bay and Langebaan Lagoon system in the future. After highlighting key concerns, it tries to make some

⁴ For a detailed description, see CMPP *Coastal Policy Green Paper* (1998) at 43.

⁵ Spatial Development Initiatives (SDIs) are regions (8 in total) that have been recognised as having high growth potential for internationally competitive industries, usually linked to a port for easy trade access. The SDI programme is an interdepartmental investment strategy led by the national Departments of Trade and Industry (DTI) and Transport (DoT).

⁶ See further WCII *Appraisal Document* (1997).

⁷ See *Summary – Draft of Model for IDZ regulations for South Africa* in Minutes of the last SIDZ meeting, August 24, 1999, West Coast Transitional Local Council, Vredenburg.

recommendations as how to cope with these problem areas.

2 Approach

An exploratory type of 'rapid appraisal of coastal environments' method (RACE) was used for this study. This RACE method was introduced by Pido & Chua to fast track the diagnosis of coastal legislative and institutional issues.⁹ From the beginning of October 1998 until the beginning of April 1999, several techniques that form the core of RACE were implemented. Literature study consisted of novels, non-fiction, reports, media such as newspapers and newsletters, environmental impact assessment reports, green and white papers, and other legislative documents. Field objects, events, processes and relationships were noted, recorded and/or photographed during numerous car and public transport drives and during walking trips throughout the region. Though not indicated as a RACE technique, six meetings were attended during this study. Over the whole period, 123 interviews were undertaken excluding those conversations that originated spontaneously and that were therefore not guided by a semi-structured interview. Four workshops were attended during the study period. They covered social, infrastructural, and economic and biophysical settings.

3 Anticipated development relevant to coastal management of the Saldanha Bay and Langebaan Lagoon system

Already in the 1970s, Saldanha Bay was declared an industrial development point. In order to realise the predicted growth, the national government made extensive investment in infrastructure such as a major railway lines and an export harbour. The plan was however repeatedly postponed mainly due to previous sanctions. At present, the manufacturing sector is the leading industry in the region and is mostly based on the processing of locally produced agricultural, marine and mining products. Recent major industrial investment however again triggered the longheld dream to create an opportunity for rational investment decisions benefiting from the infrastructure created in the apartheid years.¹⁰

⁸ See generally CMPP (1999) op cit n2.

⁹ See for further reading on RACE methodology M Pido and T Chua (1992) 'A framework for rapid appraisal of coastal environments' in T Chua and L Scura (eds) *Integrative framework and methods for coastal area management* (1992) 37 ICLARM Conf Proc 133-148.

¹⁰ WCII (1997) op cit n6 at 17.

The West Coast Investment Initiative (WCII) wants to guide and further attract this investment, together with the Western Cape provincial and relevant local governments. The objectives of the WCII are to boost export of South African products and ensure their global competitiveness, to create sustainable jobs, to optimise the use of existing infrastructure and resources, and to broaden the ownership base in economy by bringing small and medium entrepreneurs, farmers and manufacturers into the mainstream of the economy.¹¹ The WCII is

'...a short term, fast track process – of approximately one year – and does not replace the broader, long term planning process. The intention is to remove obstacles to investment'.¹²

3.1 Economic development proposals

The establishment of a 1350 ha Saldanha Industrial Development Zone (SIDZ) will be the main issue of the WCII in the years to come (see map). A study concerning industrial strategy is used to facilitate the creation of the SIDZ in that region. It was initiated to assess the competitive advantage of the SIDZ, to identify potential downstream industries with the best economic mix, to determine the future need for industrial land, housing and infrastructure, and to realistically project industrial growth and its potential pollutant/waste flows.¹³ A skills and human resources strategy is another tool to be used and was therefore recently audited. Career options in the region have until recently been limited to fishing and farming. Skilled labour for present and future industrialisation is therefore rare or is already employed in the fishing industry or service sector.¹⁴ Besides industry however, the creation of small, medium and micro enterprises in fields such as fish processing, mariculture, outsourcing services, tourism and agriculture is believed to trigger a boost in local employment as well. Proposals for value-added processing of fisheries' products try to attract foreign investment in the West Coast's fishing

¹¹ For detailed reading, WCII (1997) op cit n6 at 6.

¹² Ibid.

¹³ This industrial strategy, as one of the tools used by the WCII, is being addressed by Wesgro. For further detailed reading on possible industrial and infrastructural projects see WCII *Potential infrastructure projects* (1998) and WCII *Potential industrial projects* (1998).

¹⁴ Two key pieces of legislation, the South African Qualifications Act (1995) and the Skills Development Act (1998) aim to create a framework to integrate education and training, and to adapt it in response to identified requirements for industry. Industrial in-house training programmes also have the potential to gain higher education qualifications for their local entry-level recruits. For further reading on human resources see Le Roux *West Coast Industry Skills Audit for the Saldanha Industrial Development Zone* (1999).

industry, of which the majority is located around Saldanha Bay. The WCII also focuses on medium scale community-based mariculture and the exploitation of local resources, mainly in Saldanha Bay. The use of Saldanha Bay as an alternative export harbour for perishable, agricultural products is a further possibility outlined in the WCII documents. The opportunity to further develop the tourism infrastructure in the West Coast National Park, surrounding the Langebaan Lagoon, is currently being addressed as well.¹⁵ Self-employment and ownership in these fields is gradually stimulated by both local initiatives such as the West Coast Business Development Centre in Saldanha and by the national WCII.¹⁶

3.2 Infrastructural development proposals

3.2.1 Harbour and shipping

Saldanha Bay is the deepest and safest natural harbour in South Africa. It consists of a fishing harbour for fish industry and small-scale local fisheries, and a commercial, industrial harbour. The direct hinterland of the latter has been identified as the core of the proposed SIDZ.¹⁷ Portnet, the parastatal body that is responsible for all ports and harbours in South Africa, initiated a Strategic Integrated Port Planning Process to prepare the Port of Saldanha for industrial growth and to generate a framework for sustainable development and expansion of port facilities.¹⁸ Different extension alternatives on short, medium and long term basis, including the inland extension, are presently being discussed.¹⁹

¹⁵ For further detailed reading on possible projects see WCII *Potential fishing and mariculture projects* (1998) and WCII *Potential agricultural processing projects* (1998) and WCCI *Potential tourism projects* (1998).

¹⁶ On March 24-25 1999, the conference *New Horizons on the West Coast – An investment initiative for small and medium enterprises* was organised by the WCII at Club Mykonos and was strongly supported by local non-governmental organisations such as the West Coast Business Development Centre (WCBDC).

¹⁷ WCII (1997) op cit n6 at 20-21.

¹⁸ See generally Portnet *Draft Port Development Framework. Port of Saldanha* CSIR Report No ENV/S-C97152B (1998).

¹⁹ Portnet (1998) op cit n18 and Portnet *Medium Term Expansion of the Port of Saldanha Bay into Small Bay: A Modelling-Based Predictive Study of Hydrodynamic, Water Quality, Sediment Transport and Wave Resonance Considerations of Three Alternative Port Layouts* CSIR Report No ENV-S-C-99050 Draft (1999)

3.2.2 Land transport

A specific subnetwork of rails in the Saldanha area was already created in the 1970s to supply the area with iron ore coming from the Sishen iron ore mines in the Northern Cape Province.²⁰ This subnetwork is now managed by Orex, which is a subunit of Spoornet, the parastatal body that is responsible for all railways in South Africa. Orex is prepared to take care of all the railway transport that will need to be supplied during further industrialisation of the region.²¹ Although an efficient railway network is in place, both road network and airport facilities are planned to be improved and extended.²²

3.2.3 Water

Water supply is the most limiting factor for development in the region. Until now, the Berg and Olifants Rivers supplied most of the water for agriculture, industry and human consumption, except for some small boreholes providing local farmers with irrigation and drinking water for cattle. Future attention will be paid however to the use of groundwater from the underlying Langebaanweg aquifer, to the desalination of seawater, and to an efficient wastewater treatment system.²³

3.2.4 Energy

The neighbouring Koeberg nuclear power station mainly supports the supply of energy by Eskom. Plans for wind energy and gas from the Kudu Gas fields in Namibia are underway in order to supply a future increase of demand.²⁴

3.2.5 Housing

As the area gains in popularity and exposure to national and international attention, development of accommodation of acceptable quality becomes critical. This will further increase pressure on urban land.²⁵

²⁰ WCII (1997) op cit n6 at 17.

²¹ Alwyn Rautenbach, Orex, personal communication.

²² WCII (ed) *Potential infrastructure projects* (1998) at 6-7.

²³ WCII (1997) op cit n6 at 19.

²⁴ WCII (1997) op cit n6 at 20.

²⁵ WCII (1997) op cit n6 at 24.

Effective management of these anticipated developments in terms of the Saldanha Bay and Langebaan Lagoon system requires forward planning and employment of environmental audits and tools. Preparing and using these instruments however, should be done in the light of present legislative provisions, institutional structures, and current issues that are relevant to coastal management of the Saldanha Bay and Langebaan Lagoon system.

4. Legislation and institutions relevant to coastal management of the Saldanha Bay and Langebaan Lagoon system

4.1 National Government

4.1.1 Department of Environmental Affairs and Tourism (DEAT)

The restructuring of this department has led to the creation of 6 Chief Directorates of which three are crucial for the coastal region of concern to us:

*Chief Directorate of Marine and Coastal Management (MCM)*²⁶

This Chief Directorate will replace the previous Chief Directorate of Sea Fisheries. The *Directorate of Coastal and Inshore Resources Management* within the new Chief Directorate guides development and conservation of the coastal environment and ensures sustainable utilisation of coastal resources.

- The *Subdirectorates of Coastal Management* has played a critical role in developing the South African Coastal Management Policy Programme.²⁷
- Both *Subdirectorates of Inshore and Coastal Resource Utilisation and of Inshore Monitoring, Control and Surveillance* are responsible for the exploitation control in the coastal zone and administer the new Marine Living Resources Act (1998).²⁸ Both Subdirectorates are in control of quota allocations for the local fishing industry, and the license and permit system for commercial, subsistence and recreational resource

²⁶ The new structure and role of the DEAT Chief Directorate of Marine and Coastal Management was given in Structure Issue No 4 (1999).

²⁷ CMPP (1999) op cit n2.

²⁸ The new Marine Living Resources Act (18 of 1998) and the already existing Sea Birds and Seals Protection Act (46 of 1973) replace the previous Sea Fishery Act (12 of 1988).

use in the region.²⁹ Industrial quota catches are limited to the area outside the line between North Head and South Head. While the commercial linefishing is not confined to certain areas, the netfishing is limited to the bay and lagoon with a demarcation along the line between Elandspunt at Donkergat and Club Mykonos (see map).³⁰ The local inspectorate branch of MCM in Saldanha carries out the regional law enforcement. The waters west of the line between the Portnet small crafts' harbour and Dial Rock are declared 'fishing harbour' and are therefore administered by the MCM (see map).³¹

- The new *Subdirectorate of Inshore Research and Economics* covers issues such as small boat management, subsistence fisheries, mariculture, non-consumptive use and ecotourism, community interactions, and economic and alternative resource studies.³² Subsistence fisheries are now regarded as a legitimate category of fisheries and the 'Subsistence Fisheries Task Group was appointed to investigate and administer this fisheries' future management.³³ This new Sub-Directorate might hopefully be able to smooth the maricultural leasing procedure in the future as well, since regulations to lease baywater and to apply for maricultural permits in particular are complex and user-unfriendly.³⁴

Chief Directorate of Environmental Quality and Protection

Pollution responsibilities of the previous Chief Directorates of Sea Fisheries and Pollution Control were recently transferred to this new branch. The role of the new Chief Directorate is to protect the environment in the interests of the health and well being of the people of South Africa,

²⁹ See generally Regulations in terms of the Marine Living Resources Act (18 of 1998) GN R 1111 GG 19205 2 September 1998..

³⁰ Fishing grounds for Langebaan and Saldanha net fishermen are separated by this line. Since the Langebaan net fishermen however cannot fish in the southern part of the lagoon, they are now allowed to fish up to 500m south of the commercial jetty leading to an overlap of fishing grounds.

³¹ The Minister of Environmental Affairs and Tourism may declare certain waters 'fishing harbours' under the regulations made under the Marine Living Resources Act (18 of 1998). In general, if not declared fishing harbour, harbour waters are administered by Portnet.

³² DEAT (1999) op cit n26.

³³ Merle Sowman, Department of Environmental and Geographical Sciences, UCT, personal communication.

³⁴ Marina Vanderheeven, West Coast Business Development Centre, Saldanha, personal communication, and Sharon February, Small Farmers Association, Diazville, personal communication.

through preventing pollution and environmental degradation.³⁵ The Marine Pollution (Control and Civil Liability) Act (1981), the Environment Conservation Act (1989), the National Environment Management Act (1998), and the draft White Paper on Integrated Pollution Control and Waste Management (1999)³⁶ make this Chief Directorate responsible for the control and prevention of pollution in Saldanha Bay, Langebaan Lagoon and the coastal zone as long as its sources are water-based. Besides those mentioned in the MARPOL regulations,³⁷ pollution sources such as mariculture, ballast water, antifouling paints, dredging and disposal of dredging sludge are also part of the DEAT control.³⁸ The Department of Water Affairs and Forestry controls direct and indirect effluents from land into the bay and the lagoon.³⁹ But again, dust discharge generating at the shipyard in Saldanha during the sandblasting of antifouling paints, is supposed to be controlled by this DEAT's Chief Directorate under the Atmospheric Pollution Prevention Act (1965). Also the overall clean-up of water pollution is the DEAT's responsibility. In case pollutant material washes up on beaches however, it becomes the local authorities' responsibility.⁴⁰

Chief Directorate of Environmental Information, Management and Communication Services

This Chief Directorate provides environmental information in support of effective environmental management and public participation in environmental governance.⁴¹ Its *Directorate of Environmental Capacity Building* in particular, co-ordinates capacity building programmes and emphasises environmental education and awareness.⁴²

³⁵ DEAT (1999) op cit n26.

³⁶ Prepared by the Departments of Environmental Affairs and Tourism and Water Affairs and Forestry.

³⁷ The Republic of South Africa is party to the International Convention for the Prevention of Pollution from Ships 1973 (MARPOL), as developed by the Environmental Protection Committee of the International Maritime Organisation (IMO). The thrust of MARPOL is to prevent or regulate deliberate operational discharges rather than to deal with its consequences. Detailed rules and standards are set out in specific annexes dealing with oil, noxious liquid substances, harmful substances, sewage and garbage, and atmospheric pollution.

³⁸ Dr. Lynn Jackson, Marine and Coastal Management, Cape Town, personal communication.

³⁹ See under *Department of Water Affairs and Forestry*.

⁴⁰ See under *Local Government*.

⁴¹ DEAT (1999) op cit n26.

⁴² CMPP (1999) op cit n2.

4.1.2 Department of Transport (DoT)

Though responsible for maritime navigation, many of its functions were transferred to a statutory authority, the South African Maritime Safety Authority (SAMSA).⁴³ The Department of Transport administers the South African Transport Services Act (1981) and the Legal Succession to the South African Transport Services Act (1989) and still plays a regulatory role in the commercial Port of Saldanha, including pollution provisions.

4.1.3 Department of Water Affairs and Forestry (DWAF)

This department is the custodian of water resources in South Africa as opposed to the resources living in this water. The management of water quantity and quality are both central to the mandate of the department. Its functions are guided by the new National Water Act (1998). For the Saldanha Bay and Langebaan Lagoon system, however, its custodianship only applies for the coastal waters outside the line connecting South Head and North Head, and for the small zone between the line Salamander Point/Leentjiesklip No2 and Rietbaai/Langebaan Point (see map).⁴⁴

Although only partly custodian, DWAF nevertheless regulates the direct and indirect effluent disposal of industrial and sewerage discharge into the coastal, bay and lagoon waters and the impact on the quantity and quality of water reaching these water bodies by using external water quality guidelines.⁴⁵ The new National Water Act (1998) also includes the 'polluter pays' principle,⁴⁶ the governing of the use of water resources, the devolution of water resource management to the local level, and a holistic and integrated approach to catchment management. The latter is important in terms of the use of the Langebaanweg and Elandsfontein aquifers in the region and their possible seepage into the system (see map).

4.1.4 Department of Health (DoH)

Whereas the DWAF issues permits for discharging effluents into the

⁴³ See under *South African Maritime Safety Authority*.

⁴⁴ The rest of the water is under custodianship of either the Department of Environmental Affairs (fishing harbour), Portnet, the Department of Defence or the South African National Parks Board.

⁴⁵ DWAF *South African Water Quality Guidelines for Coastal Marine Waters. Volumes 1-4 (Natural Environment, Recreational Use, Industrial Use and Mariculture)* (1995).

⁴⁶ See Chapters 2, 3, 4 and 7 of the National Water Act (36 of 1998).

marine environment and for land fill sites, according to quality objectives and indicators, the *Directorate of Environmental Health* reviews and comments on the sustainability of the proposed activity from a health perspective. The International Health Regulation Act (1974) which is based on the World Health Organisation's standards, guides the department's activities and decisions assisted by the Health Act of 1977.

4.1.5 Department of Public Works (DPW)

Between 1970 and 1974, the Iron and Steel Corporation of South Africa (ISCOR), the Industrial Development Corporation (IDC) and the Strategic Fuel Fund (SFF) initiated the development of the region by planning the harbour, the railway, a mining project and a refinery. Extensive plots in the region therefore became state owned.⁴⁷ The department's role is one of state land administration, with the use and disposal of state land, and the development of state land for public purpose.⁴⁸ The IDC and SFF state-owned land in the region will therefore play a crucial role in the development of the SIDZ and the extension of the Port of Saldanha in the future.⁴⁹

4.1.6 Department of Land Affairs (DLA)

This department administers two new Acts, namely the Local Government Transition Act (1993) and the Development Facilitation Act (1995), both of which could have profound implications for land-use planning in the coastal zone. The Western Cape Province however, has decided not to adopt the philosophy and provisions of the Development Facilitation Act (1995) in its new planning legislation.⁵⁰ In terms of the Local Government Transition Act (1993) however, local authorities still need to prepare so-called 'Integrated Development Plans' (IDPs).⁵¹

⁴⁷ See generally Portnet (1998) op cit n18 and Chittenden Nicks Partnership *Saldanha Industrial Development Zone. Planning Review Summary* (1999).

⁴⁸ J Glazewski & M Sowman *Draft Review and Analysis of Legislative and Institutional Arrangements for Coastal Management in South Africa* (1998).

⁴⁹ See generally Portnet (1998) op cit n18.

⁵⁰ See under *Provincial Government* and *Local Government*.

⁵¹ An IDP is defined as 'a plan aimed at the integrated development and management of the area of jurisdiction of the municipality concerned... having regard to the general principles contained in Chapter 1 of the Development Facilitation Act (67 of 1995)... and where applicable having regard to the subject matter of a land development objective contemplated in Chapter 4 of that Act'.

4.1.7 *Department of Agriculture (DoA)*

This department possibly has a role to play where its management activities take place in the coastal area. The area surrounding the Saldanha Bay and Langebaan Lagoon system is largely utilised for dryland cropping of wheat. A significant portion is used as natural grazing for sheep and cattle. Water for cattle, sheep and irrigation mainly comes from the Berg River and local aquifer boreholes. Future water use conflicts for urbanisation, industrialisation and human requirements will have considerable impacts on the flow of both Berg River and aquifers thereby possibly affecting the bay, lagoon and coastal strip.⁵² This however, together with possible run-off of agricultural fertilisers, is an issue to be dealt with by the DWAF.⁵³

4.1.8 *Department of Foreign Affairs (DFA)*

This department is involved in the negotiation and adoption of international conventions. If there is an international dimension or impact on the coast, then this department is responsible.⁵⁴ Examples include the navigation of foreign vessels before entering the Port of Saldanha and wrecks of foreign vessels on the Sixteen Mile Beach or near the islands. The southern part of the Langebaan Lagoon with its wetlands was declared a Ramsar site and is therefore administered by the international Ramsar convention through the Department of Foreign Affairs.⁵⁵

4.1.9 *Department of Defence (DoD)*

Because of the geographical position of the bay, military presence has always been pronounced. The Department of Defence therefore controls several land and coastal areas in the region. The land and coastal zone north of the Postberg Nature Reserve together with Meeuwen Island is a military prohibited area. The South African Navy owns the region northward and westward of North Head, the coastal zone off that region's shoreline and a small portion of the fishing harbour for its mooring

⁵² WCII (1997) op cit n6 at 17.

⁵³ Chapter 3 of the National Water Act (36 of 1998).

⁵⁴ Op cit n48.

⁵⁵ The Republic of South Africa is a party to the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1971) or the Ramsar Convention, and to the Protocol to amend the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1982).

activities (which it leases from the DEAT) (see map). This naval harbour is governed by the Defence Act (1957).

4.2 Western Cape Provincial Government

4.2.1 *Department of Environment, Sport and Culture*

The *Sub-Directorate of Nature Conservation (Cape Nature Conservation, CNC)*, one of the three sub-directorates in the department's *Directorate of Environment*, is responsible for certain aspects of coastal management through the Nature and Environmental Conservation Ordinance (1974).⁵⁶ It manages nature reserves or protects natural environments and conservancies, also where these are located in coastal areas.⁵⁷ The key activity of the *Sub-Directorate of Environmental Impact Management* is to review and comment on a range of plans, proposals and development applications from local and other provincial authorities.⁵⁸ The department's main direct link with the Saldanha Bay and Langebaan Lagoon system is its strong involvement and representation in the Environmental Monitoring Committee.⁵⁹

4.2.2 *Department of Planning, Local Government and Housing*

The *Directorate of Planning* is integrally involved in coastal management through the various functions of land use planning, policy development and implementation, development regulation, preparation of structure and development plans as well as providing technical planning support to districts and local councils. The Western Cape has decided not to adopt the philosophy and provisions of the national Development Facilitation Act (1993) in its new planning legislation. While the Western Cape Land Use Planning Ordinance (1985) assigned traditional land use planning functions to local authorities, the new Planning and Development Act (1999) instead, will charge them with the development of 'Integrated Development Frameworks' (IDFs).⁶⁰

⁵⁶ Op cit n48.

⁵⁷ The only protected areas are the Postberg Nature Reserve which is privately owned and the West Coast National Park which is nationally administered leaving Cape Nature Conservation with no protected areas in the Saldanha and Langebaan region.

⁵⁸ Op cit n48.

⁵⁹ See under *Environmental Monitoring Committee*.

⁶⁰ The purpose of an IDF is "to lay down strategies, proposals and guidelines including development objectives and implementation plans by means of development planning to

The *Directorate of Local Government* is responsible for overseeing the preparation of the IDFs. Coastal municipalities are therefore charged with an important coastal management responsibility.

The *Directorate of Housing* administers the new Housing Act in close co-operation with the national Department of Housing. Since the area gains in popularity and exposure to national and international attention, development of accommodation of acceptable quality becomes critical.⁶¹ The new Housing Act addresses the problem of an enormous influx of people seeking employment opportunities in the region. This is particularly obvious in Saldanha where the previous townships of Diazville and White City are extended with the so-called 'RDP' houses.⁶² On the other hand, the influx of employees in skilled jobs triggers residential development in 'sleeping' villages outside the industrial and commercial hub, such as in Langebaan, Jacobs Bay, Paternoster and even as far as St. Helena Bay and Veldrif.⁶³

4.3 Local government

Under the Local Government Transition Act (1993), many municipalities established transitional councils in order to promote economic development. Saldanha belongs to the West Coast Peninsula Transitional Local Council (WCPTLC), which also covers Vredenburg, Paternoster as well as St. Helena Bay. Langebaan and the West Coast Peninsula belong to the southern part of the West Coast District (see map). The West Coast District is required to provide services and support needed for essential infrastructure development for those areas of jurisdiction, which fall outside of the municipal areas.⁶⁴ The recently published White Paper on Local Government (1998) emphasises the role of developmental local government as the key to the successful implementation of the Reconstruction and Development Programme (RDP) of the new South Africa.⁶⁵ It states that:

'...[D]evelopmental local government is the dynamic way in which local councils work

general principles such as sustainable development as well as environmental protection".

⁶¹ WCII (1997) op cit n6 at 24.

⁶² RDP stands for the Redistribution and Development Programme which is together with the Growth, Employment and Redistribution Programme (GEAR) one of the main national programmes to address problems of apartheid legacy.

⁶³ Personal observation.

⁶⁴ D Barnardo *Weskustreek. Profiel vir die 1999/2000 Geïntegreerde Ontwikkelingsraamwerk* West Coast District Council (1999).

⁶⁵ S Oldfield and S Parnell *Developmental Local Government in South Africa. A Handbook for Urban Councillors and Community Members* Urban Sector Network (1998).

together with local communities to find sustainable ways to meet their needs and improve their lives'.⁶⁶

As part of this new role, the Western Cape Department of Planning, Local Government and Housing, charged Greater Saldanha and Environs (Langebaan, the West Coast Peninsula, Velddrif and the West Coast District) to develop an 'Integrated Development Framework' (IDF) in terms of the Western Cape Planning and Development Act (1999).⁶⁷ It requires that land use planning, transport planning, infrastructural planning and promotion of integrated (local) economic development considerations be incorporated in the formulation of such a framework.⁶⁸ Besides these IDFs however, local governments are still asked for 'Integrated Development Plans' (IDPs) in terms of the national Local Transitional Government Act (1993). These plans should also integrate land development with socio-economic needs.⁶⁹

Besides the land use planning responsibilities, the local authorities are also supposed to take care of water pollution particularly if certain pollutants wash up on beaches along the bay. The local municipalities are charged with this function under the Marine Pollution (Control and Liability) Act (1981) and the Marine Pollution (Prevention of Pollution from Ships) Act (1986).

4.4 Statutory and parastatal bodies

4.4.1 South African National Parks Board (SANPB)

The West Coast National Park is one of the three South African National Parks situated along the coast (see map). It covers the area east of the Sixteen Mile Beach (starting from the low water mark) and west of the R27, south of Langebaan and north of Yzerfontein and includes the entire Langebaan Lagoon. The lagoon's northern limit is situated between Rietbaai to the west and Langebaan Point to the east. The lagoon itself is subdivided in 3 zones: the northern multi-purpose recreational area between the northern limit and Preekstoel/Oostewal, the central limited recreational area between Preekstoel/Oostewal and Churchhaven, and the southern wilderness area south of Churchhaven including the marshes. This wilderness area also includes Schaapen Island, Marcus Island, Malgas Island and Jutten Island. The Langebaan Lagoon marshes are designated

⁶⁶ White Paper for Local Government (1998) at 17.

⁶⁷ Op cit n60.

⁶⁸ Op cit n48.

⁶⁹ Op cit n51.

under the international Convention for Protection of Wetlands of International Importance (RAMSAR) (see map).⁷⁰ Although privately owned, the Postberg Nature Reserve was included into the Park on a contractual basis.⁷¹ The northern tip of the Postberg Peninsula however is under control of the Department of Defence.⁷² Future westward and eastward extensions of the Park are now considered and the Park's Board also shows interest in Vondeling Island.⁷³

The WCNP Board's functions include protected area management, issuing licenses for recreational activities and resource exploitation in certain areas, and the imposition of fines for law enforcement. Guiding key legislation is the National Parks Act (1976) and the National Environmental Management Act (1998).⁷⁴ It is important to notice that the Parks Board controls both water and living resources of Langebaan Lagoon.

4.4.2 South African Maritime Safety Authority (SAMSA)

Many functions of the Department of Transport were transferred to the statutory South African Maritime Safety Authority (SAMSA) under the South African Maritime Safety Authority Act (1998). Its overall mandate is that of 'safe and pollution free seas', including harbours, bays and lagoons. It administers a number of Acts that are mainly guided by international conventions in terms of both marine safety and marine environmental protection. The Marine Pollution (Prevention of Pollution from Ships) Act (1986) (the MARPOL Act) includes the provisions and annexes of the International Convention for the Prevention of Pollution from Ships 1973 (MARPOL).⁷⁵ Whereas control, prevention and clean-up are DEAT responsibilities, legislative control, law enforcement and prosecution are dealt with by SAMSA.

The main pollution focus for the Langebaan Lagoon and Saldanha Bay system is that of oil from ships. SAMSA is responsible for oil while on board of vessels. It also develops oil pollution contingency plans in conjunction with the DEAT for provincial and local government level.⁷⁶

⁷⁰ See under *Department of Foreign Affairs*.

⁷¹ A Schaefer and P Schaefer *Lagoon. A companion to the West Coast National Park* Yoshi Publishing (1993).

⁷² See under *Department of Defence*.

⁷³ Otto von Kaschke, manager, West Coast National Park, personal communication.

⁷⁴ Op cit n48 at 60.

⁷⁵ Op cit n37.

⁷⁶ Op cit n48 at 38.

4.4.3 National Monuments Council (NMC)

The Council's main management functions are to protect archaeological and cultural resources in terms of the National Monuments Act (1969). The recent National Heritage Resources Act (1999) and the National Heritage Council Act (1999) however, intend to replace the present Act. Regulations in terms of these Acts are expected to be published by early 2000.⁷⁷ The Saldanha Bay and Langebaan lagoon system is unique in that it reveals traces of a succession of prehistoric life, for a period starting about 20 million years ago.⁷⁸ Some 117000 years old footprints left alongside Langebaan Lagoon have been identified as the oldest fossilised tracks of a modern human ever found.⁷⁹ Both the Sixteen Mile Beach and islands such as Vondeling and Jutten Island are believed to hide shipwrecks and other interesting historical resources.⁸⁰ An important activity of the Council is to ensure that environmental assessments are carried out to protect these historical and archaeological resources.

4.4.4 Portnet

In the 1970s, the Iron and Steel Corporation of South Africa (ISCOR), initiated the development of the port. It was taken over by the South African Railway and Harbour Administration of the Department of Transport's South African Transport Services (SATS) in 1977. In 1981 the commercial aspects thereof were transferred to Transnet Ltd., a parastatal body. Portnet, as a division of Transnet Ltd., is therefore now custodian of the Port of Saldanha. It covers a large portion of Saldanha Bay waters and it also owns part of the commercial harbour's hinterland. Ships enter Portnet waters once passing the line between North and South Head. The southeastern limit of the port lies between Salamander Point and Leentjiesklip No2. The waters of the Saldanha fishing harbour, west of the line between the Portnet small crafts' harbour and Dial Rock, are under control of the DEAT.⁸¹ Portnet's main interest in the bay is the commercial harbour, which consists of the ore and oil loading jetties, a multipurpose quay and its hinterland. It is waiting

⁷⁷ Prof. Deacon, National Monument Council, Cape Town, personal communication.

⁷⁸ Schaefer and Schaefer (1993) op cit n71 at 15.

⁷⁹ National Geographic *Tracking the first of our kind* (September 1997) at 92-99.

⁸⁰ A Groenewald *Blomme en Bloed. Die verhaal van Langebaan* Uitgegee deur die mense van Langebaan (1997).

⁸¹ Op cit n31.

to be extended in anticipation of future industrialisation.⁸²

4.5 Community-based organisations and user groups

4.5.1 *Environmental Monitoring Committee (EMC)*

When Saldanha Steel Operations (SSO) came to the region, it applied for the rezoning of their steel mill plot from agricultural to industrial land use. The Western Cape Government and its Premier approved the application. One of the conditions however, was to launch the Saldanha Steel Environmental Monitoring Committee. It was empowered to intervene if the conditions of approval were not adhered to.⁸³ A matter of grave concern to the EMC from the outset has been that:

‘...an overarching committee should be put in place to monitor the cumulative effects of all the downstream developments that have been and will be taking place within the Saldanha area’.⁸⁴

Whereas the Environmental Monitoring Committee’s focus was limited to Saldanha Steel until now, the Western Cape Minister of Environment, Sport and Culture seriously considers the transformation of the Committee as an umbrella for integrated environmental management for the entire area.⁸⁵

4.5.2 *Saldanha Bay Water Quality Forum (SBWQF)*

The Saldanha Bay Water Quality Forum Trust was established in an effort to co-ordinate the water quality assurance efforts of a number of businesses, organisations and concerned groups in the Saldanha Bay area. The stakeholders are the West Coast Peninsula Transitional Local Council, the Langebaan Municipality, business, recreation and tourism, nature conservation, and the public. Its Board of Advisors consist of the Department of Water Affairs, the Department of Environmental Affairs and Tourism, and Portnet. It constitutes a legal entity to act on behalf of all stakeholders but on sound business principles. It is however bound to use all funds raised to forward its only cause: the maintenance of the water quality in Saldanha Bay. It brings users and polluters together, evokes

⁸² See generally Portnet (1998) op cit n18.

⁸³ Saldanha Steel Operations *Saldanha Steel: Environmental Management Plan* (1996), chapter 1.6.

⁸⁴ Prof. Giliomee (Chairman of Environmental Monitoring Committee). *Report of the Saldanha Steel Environmental Monitoring Committee on the environmental record of Saldanha Steel (Pty) Ltd. for the period March 1996 to October 1999.*

⁸⁵ See Minutes of the 17th meeting of the Saldanha Steel Environmental Monitoring Committee, 25 February 1999, Cape Nature Conservation, Cape Town.

environmental discussion and thereby tries to prevent degradation. Extensive monitoring programmes have recently been put in place. They are professionally guided and all parties to the Forum will share costs.⁸⁶ The aim is to extend this 'marine water' forum with others such as a Groundwater Forum, focusing on the Langebaanweg and Elandsfontein aquifers, an Air Quality Forum, a Water Catchment Committee, and all other relevant environmental issues. This should eventually lead to the West Coast Environmental Monitoring Committee.⁸⁷

4.6 Non-governmental organisations

Several non-governmental organisations are active in the area, covering labour unions, commercial chambers, tax-payers, farmers unions, business development centres, tourism organisations and fishing associations. Non-governmental organisations such as the Small Farmers Association (SFA), the Centre for Integrated Rural Development (CIRD) and the West Coast Business Development Centre (WCBDC) stimulate local people to get involved in maricultural small, medium and micro-enterprises. During the development of Saldanha Steel in the region, environmental lobby groups such as Earthlife Africa, the Wildlife and Environmental Society of South Africa and WWF-South Africa were very involved.⁸⁸

5 Legislative and institutional issues relevant to coastal management of the Saldanha Bay and Langebaan Lagoon system

5.1 Land use planning issues (see box)

5.1.1 *Confusion about the IDF and IDP concepts*

Though land use planning of the West Coast Peninsula has already gone through a turbulent phase during the last four years,⁸⁹ the Western Cape Planning and Development Act (1999) now charges Greater Saldanha and

⁸⁶ See Minutes of 1st Saldanha Bay Water Quality Forum Trust meeting, 21 January 1999.

⁸⁷ See Minutes of 1st Groundwater Quality Forum meeting, 18 March 1999, Langebaanweg.

⁸⁸ An extensive list of non-governmental organisations in the region was compiled by Danie Barnardo and is recently being updated by Janette Basnett.

⁸⁹ The approval of the mini steel mill of Saldanha Steel Operations (SSO) in 1995 and the consequent and gradual industrial development ordered the revision of previous land use plans. These revised versions were to address the location of heavy and light industry, service and commercial components, and associated infrastructure.

Environs⁹⁰ with the creation of an Integrated Development Framework (IDF). The nature of an IDF requires the municipality to go beyond its traditional land use, structuring role.⁹¹ New Local Government policy asks land use plans to be locally developed and to be built on thorough public participation taking integrated social, economic and environmental values into account.⁹² Moreover, besides the provincial IDF, municipalities are still expected to produce an Integrated Development Programme (IDP) under the national Local Government Transition Act (1993).⁹³ Confusion arises on what these tasks exactly signify and how to combine them in terms of land use planning.

5.1.2 *Local inexperience*

The replacement of the traditional straightforward land use planning by concepts such as public participation, sustainable development and integration of values, needs proper capacity building. It was felt that local human resources and proper guidance for this new role were frequently lacking and can only be reached by focused training and education. Even ongoing private municipal consultants seem to be having problems with the new procedural concepts. The integration of the Saldanha Industrial Development Zone (SIDZ) in the land use planning of the region in particular, is one of the main challenges. Since the West Coast Investment Initiative (WCII) does not have specific authority on land use planning, the merging of the SIDZ with detailed land use plans is left to the municipal planning.⁹⁴ Though meetings between the SIDZ committee and representatives and user groups of the local municipalities are organised on a regular basis, hands-on interaction and exchange are limited to these monthly meetings only. Local experience, know-how and expertise come short when trying to merge the complexity of an SIDZ with surrounding traditional land uses.

5.1.3 *Coping with residential pressure*

The pressure on the development of residential areas, as triggered by a population influx, forced the Integrated Development Framework to provide

⁹⁰ This includes Vredenburg, Saldanha, St. Helena Bay and Paternoster (the West Coast Peninsula), Langebaan, and Velddrif.

⁹¹ Op cit n60.

⁹² See generally Oldfield and Parnell (1998) op cit n65.

⁹³ Op cit n51.

⁹⁴ Chittenden Nicks Partnership (1999) op cit n49.

for preliminary residential Development Paradigms.⁹⁵ Though the principle of environmental sustainability is key to the new Housing Act and project-specific environmental impact assessments are addressed, no mechanisms have yet been put in place to ensure that environmental issues are integrated into planning, design and implementation of the housing delivery within the assigned residential areas. Particularly stormwater run-off from new housing developments in the region has become a serious problem.⁹⁶ The stormwater issue is however not addressed by the new National Water Act (1998). Previously small and picturesque fishing villages such as Langebaan, Jacobs Bay, St. Helena Bay and Paternoster are becoming major residential attractions for the increasing influx of workers to the region.⁹⁷ It is obvious that the traditional character and the tourism potential of these 'satellites' will be thoroughly impacted unless responsible planning takes sustainability concerns into account. Again, though local authorities of Langebaan and the West Coast Peninsula assured to aesthetically control new development through baseline zoning regulations and local committees, official regulations were found to be lacking.⁹⁸

5.1.4 Restriction of physical access

The development of resorts and residential areas along the bayshore, mainly between Langebaan and Saldanha, in many cases prevent physical access to the bay and bayshore for the public.⁹⁹ The Seashore Act (1935) did not make any provision for this physical access where coastal land was privately owned. The draft White Paper for Sustainable Coastal Development in South Africa however, is promising in that it specifically ensures that the public has the right of physical access to the seashore and the beach, on a managed basis.¹⁰⁰ Concerns were expressed however as to how future regulations would be interpreted and implemented.

⁹⁵ VKE *Saldanha Bay and Environs Development Profile. Executive Summary* (1998).

⁹⁶ Dr Lynn Jackson, Marine and Coastal Management, Cape Town, personal communication, and Christo van Wyk, Department of Water Affairs and Forestry, Cape Town, personal communication.

⁹⁷ See WCII (1997) op cit n6.

⁹⁸ 'Bouplanne voortaan ook deur estetiese komitee gekeur' Jaargang 7 No 7 *Langebaan Gazette* (8 April 1999) and Daan Visser, town planner West Coast Peninsula Transitional Local Council, personal communication.

⁹⁹ Personal observation and general public, personal communication.

¹⁰⁰ CMPP (1999) op cit n2 at 45.

5.2 Water use planning issues (see box)

5.2.1 *No legally binding water use planning*

Although privatised, Portnet, as manager of the Port of Saldanha, still has jurisdiction and law enforcement control over a major part of the bay. As a response to developmental pressure in the region, the Saldanha Bay Water Quality Forum, in conjunction with the DWAF and the DEAT, approved a water use plan in which Portnet outlines the usage of the baywater by the year 2010.¹⁰¹ It mainly focuses on no-use zones to safeguard efficiency of harbour activities but is open for modifications depending on future environmental and technical aspects.¹⁰² In contrast with land use plans however, it is not legally binding because of the parastatal status of Portnet.

5.2.2 *Insufficient assessment of port expansion*

Short, medium and long-term port development scenarios were generated in a Draft Port Development Framework. Expansion of the port westward into Inner Bay and eastward into Outer Bay are possible responses to future harbour activity growth.¹⁰³ During the draft's feedback discussions however, new expansion ideas were brought forward among which an inland excavation.¹⁰⁴ The choice of port expansion will have a considerable impact on the spatial land planning near the port as well as on environmental aspects of the baywater. It is therefore of the utmost importance that Portnet, as parastatal, not only considers commercial-financial aspects. Though the SIDZ committee realises the importance of this issue and stimulates discussions among involved parties, fear exists that ongoing impact assessments are mere window-dressing.¹⁰⁵

5.2.3 *Decreasing safety of bay transport*

Increased commercial shipping in the Port of Saldanha coincides with the

¹⁰¹ See map by Portnet on the *Usage of seawater areas by the year 2010 as approved by the Saldanha Bay Sea Water Management Committee*, SBH 195-A1-A3030 (1997).

¹⁰² For example, Portnet envisages banning most maricultural activity from Small Bay due to its negative environmental impact (Mr. Schultz, water use planning, Portnet, personal communication).

¹⁰³ Portnet (1998) op cit n18.

¹⁰⁴ Alan Carnegie, chairman Saldanha Bay Water Quality Forum, personal communication.

¹⁰⁵ For further reading on assessment studies see Portnet (1998) op cit n18 and Portnet (1999) op cit n19.

small crafts' activity. Recreational water transport becomes more and more pronounced. While only few minor accidents have occurred in the past, Portnet Control and SAMSA expressed their concern in terms of efficient water traffic management in the future.¹⁰⁶

5.3 Water quality management issues (see box)

5.3.1 Complex overall coordination

Harbour, bay and lagoon pollution control is administered by a number of government departments and statutory bodies. The South African Maritime Safety Authority controls the substance while on board of vessels and is charged with law enforcement. While assisting in the control and prevention of pollution from ships and mariculture, the DEAT becomes actively involved in clean-up when the bay or lagoon environment is actually polluted. In addition, all land-based sources are regulated by the DWAF. The Department of Health's authority is to integrate the international health regulations in terms of water quality. In terms of oil pollution, the oil company (Strategic Fuel Fund) itself owns high-tech oil pollution prevention and clean-up material and is responsible for the ship's pollution while at berth. All this, together with the involvement of Portnet, the Department of Transport, the provincial Sub-Directorate of Nature Conservation and the local authorities, makes water quality management in the bay and lagoon a rather complicated activity depending on efficient communication and cooperation. While this management system proved to be efficient in the past, a future increase in harbour traffic might seriously jeopardise its functioning. It is hoped that the draft White Paper on Integrated Pollution and Waste Management (1998) will soon solve the problem when the DEAT is charged with the overall coordination function. But even then, land-based sources of pollution will stay under control of the new National Water Act (1998) that is administered by the DWAF. Bay and lagoon quality management should ideally merge both land- and water-based source controls whereas it is now administered by two different departments. Effective management therefore will require a close cooperation between both DWAF and DEAT in the future.

5.3.2 Specific pollution threats

Oil pollution risk still receives major attention during water quality control

¹⁰⁶ Capt. Graham Harling, Portnet Control, personal communication.

of the bay. Nevertheless, other less-visible water pollutant sources might become more threatening with future water traffic increase. The draft White Paper on Integrated Pollution and Waste Management (1999) and the MARPOL annexes¹⁰⁷ include a whole range of possible water pollutant sources, some of them not yet adopted or not yet in force. Three of them are believed to become of particular importance for the baywater quality control in the future:

- *Ballast water*: Portnet requests each ship, before entering the Port of Saldanha, to change its ballast water outside the port's boundaries. Ballast water samples are taken by Portnet's environmental manager when the ship is at berth. These procedures are however not yet integrated into South African legislation.¹⁰⁸ Ballast water issues have been included in the MARPOL annexes but are not yet in force. Keeping the harbour waters free from foreign ballast water therefore entirely depends on the goodwill of Portnet and the shipping crew. In most cases, ballast water analysis results are only available after the ship has left the port making prosecution, if possible at all, extremely difficult.¹⁰⁹
- *Antifouling paints*: The toxicity of certain antifouling paints of ships and its possible threat to waters have recently been adopted in the MARPOL Annexes but are not yet in force. Ships and small crafts in the bay are therefore free to use any type of paint including the toxic TBT and Cu-containing paints. It was however very difficult to get hold of information concerning the type of maintenance in the different shipping categories. It is believed that the international shipping traffic dominantly complies with new baselines while local small crafts and fishing vessels still use traditional substances.
- *Solid waste*: Plastic and other floating material is an ever-increasing problem in the bay. Garbage generated on ships is heavily controlled and can be disposed of in the Port of Saldanha.¹¹⁰ The main source is therefore land-based since no proper solid waste management is in place. Also a lack of environmental awareness and education contributes to the problem.¹¹¹ The solid waste component is an issue to be dealt with by the local government assisted by the DEAT under the Environment Conservation Act (1989).
- *Stormwater and sewage*: Another concern is the absence of a proper

¹⁰⁷ Op cit n37.

¹⁰⁸ For further reading see DWAF *South African Water Quality Guidelines for Coastal Marine Waters. Volume 3 (Industrial use)* (1995) at 3.9-3.10.

¹⁰⁹ Jimmy Norman, environmental manager, Portnet, personal communication.

¹¹⁰ Annex 5 of the MARPOL Convention deals with garbage generated from ships.

¹¹¹ Jimmy Norman, environmental manager, Portnet, personal communication.

stormwater runoff management and the regular sewage overflows in the bay.¹¹² Stormwater issues and sewage runoff are under the DWAF authority administering the National Water Act (1998). Though a proper stormwater runoff regulation is missing from the new Act's regulations, the sewage overflow problem is rather linked with technical flaws. These seemed to be due to limited capacity building at municipal level.

- *Waste processing discharge:* Additionally, the waste from fish processing industries around the bay is of main concern. The Marine Living Resources Act (1998) authorises the Marine and Coastal Management Directorate of DEAT with the control of this pollutant source.¹¹³ Due to a lack of human resources, the DWAF is now mainly dealing with this urgent issue.
- *Shipyard discharge:* Finally, the shipyard discharge in Saldanha Bay containing saw-dust and antifouling paints from sandblasting generates a specific toxic pollution in that part of the bay as monitored by the Saldanha Bay Water Quality Forum. The Atmospheric Pollution Prevention Act (1965) is yet another act that takes responsibility for this specific source of bay pollution.

It is clear that specific legislation and necessary institutional backup are available to cope with a variety of pollutants. Two issues however are to be addressed urgently. Management is scattered over a variety of institutions and human resources are not always available. Hopefully, the draft White Paper on Integrated Pollution and Waste Management for South Africa (1999) will deliver the necessary legislative and regulatory background to combine, regulate and coordinate this vast variety of pollutant sources and their consequences to the bay.

5.3.3 Overlapping and skewed monitoring and lobbying

It was felt that both the Saldanha Bay Water Quality Forum and the Environmental Monitoring Committee, although dealing with the same issues in the same region, are not cooperating. A mutual distrust might of course be linked with the strong overlap of activities but its roots are to be found much deeper. They seemed to be triggered by a skewed relationship between the DWAF and the DEAT that launched the SBWQF and the EMC respectively. The institutional split leads to a power game rather than an efficient cooperation strategy and therefore might be turning against proper

¹¹² Alan Carnegie, chairman Saldanha Bay Water Quality Forum, personal communication.

¹¹³ See GN R 1111 GG 19205 2 September 1998.

monitoring and lobbying in the future.

5.4 Marine living resource management issues (see box)

5.4.1 *Cut and redistribution of quota*

The launch of quota cuts and redistribution by the new Marine Living Resources Act (1998) and the consequent financial and social burdens were attended by protests from major fish industries.¹¹⁴ Redistribution is meant to generate more quota holders and empowerment groups in the previously disadvantaged communities. Reselling of quota however, will seriously undermine the system. Personal enrichment is already going on and is believed to hamper ownership increase and to put a further financial burden on established fishing industries.

5.4.2 *Stricter exploitation control and cost*

The stricter exploitation control as stipulated in the regulations of the new Marine Living Resources Act (1998) tries to cut down the number of license holders. Semi-commercial and commercial licenses will be merged, fishermen with another primary occupation will have to hand in their licenses and license holders that previously neglected catch returns will be banned from the system as well. Recreational fisheries are also curtailed by means of stricter regulations in terms of bag limits and minimum size limits.¹¹⁵ In general, doubts are raised however about the capability of the local Inspectorate with the DEAT's Marine and Coastal Management, to systematically trace illegal activities such as the catch of protected shark species in the lagoon.¹¹⁶ Human resources are inadequate to properly enforce the stricter regulations. Though costs to apply for new commercial licenses and recreational permits considerably increased, complaints were raised about the use of this extra money by the MCM. Many fishermen are convinced that the money will not be used for proper fish stock management, inspection and law enforcement but is needed to fill financial gaps in other governmental departments.

¹¹⁴ See generally all issues of *Die Weslander* from December 1998 to March 1999.

¹¹⁵ See further reading in *Sea Fisheries Recreational Fishing Information Brochure* (November 1998).

¹¹⁶ Some commercial fishermen make a good living by specifically targeting the Smooth Hound Shark (*Mustelis mustelis*) in the lagoon, though this species is protected in South Africa.

5.5 Protected area management issues (see box)

5.5.1 *Fragile status of protected areas*

The West Coast National Park is regarded to be the most important and best protected area in the region. It is directly flanked by the private Postberg Nature Reserve¹¹⁷ and an area administered by the Reconnaissance Army Force, both situated at the northern tip of the Postberg peninsula covering South Head. Also the SAS Navy domain covering the North Head area west of Saldanha enjoys a certain degree of protection. The coastal strips directly off North and South Head are also under the Department of Defence administration. Claims of the South African National Parks to annex at least South Head to the WCNP were in vain until now. The Park's Board realises however that the present nature of the Reconnaissance Army Force's activities renders this area a sufficient protection as well. It can only hope that this status will be safeguarded in the future and thereby entirely relies on the Department of Defence's goodwill. Additionally, a proper management and protection of the private Postberg Nature Reserve is completely dependent on a management contract between the WCNP and the Postberg owners.¹¹⁸

On the other side of Saldanha Bay, the Spreeuwal Dune Field became protected as one of the conditions for the rezoning approval of the Saldanha Steel site.¹¹⁹ Its official protected area status however has not been granted yet and the chance of being merged with future industrialisation therefore gradually increases.¹²⁰

5.5.2 *Managing pollution threat to the lagoon water*

The quality of the lagoon water is almost entirely dependent on activities happening on the bay and on land surrounding it. The complex overall coordination that was described in safeguarding the baywater from pollution

¹¹⁷ See for further reading about park's history Schaefer & Schaefer (1993) op cit n71.

¹¹⁸ Otto von Kaschke, manager, West Coast National Park, personal communication.

¹¹⁹ See section 1.3 of the approval of the application for the rezoning of portion 2 of the farm Yzervarkensrug No 129, portions 8 and 13 of the farm Yzervarkenrug No 127 and a portion of farm 195 by the Western Cape Premier (1995).

¹²⁰ The Spreeuwal Dune Field to the north-east of Saldanha Bay was identified by Gene Lohrentz (Military Academy, University of Stellenbosch) to be of high ecological value and to be possibly important in buffering future industrial pollution flowing to the bay, for detailed reading see G. Lohrentz *Vegetated buffers as land use strategy in the Saldanha-Langebaan coastal zone. Overview: Development realities of the Saldanha Bay area* (1998).

is therefore also relevant to the lagoon.¹²¹ Despite a regular contact between the Park's Board and Portnet in terms of oil tankers visiting the harbour, it was generally felt that thorough communication and active involvement are lacking. All involved parties however, agreed that a major oil spill in the Port of Saldanha, despite a proper management, would be a catastrophe for the bay, the lagoon and its marshes at the southern tip. The official view of the WCNP Board is therefore clear in that it:

'...believe[s] that all oil transport should be banned from Saldanha Bay in order to protect the fragile lagoon ecosystem from the risk of oil entering its waters'.¹²²

5.5.3 *Managing groundwater flow to the lagoon marshes*

Besides oil and other pollutant sources, the Langebaan Lagoon wetlands might even be more threatened by a possible cut-off of freshwater seepage from the Elandsfontein aquifer due to groundwater overexploitation. It is therefore obvious that, besides its role in the baywater's management, the WCNP Board be represented in the future Water Catchment Committee as administered by the DWAF through the new National Water Act (1998).

5.5.4 *Access to lagoon water and its resources*

The use of the water and the living resources in Langebaan Lagoon is under complete control of the Park's Board. Because of the new Act for Marine Living Resources (1998) however, the Board needs to reproclaim the lagoon as a protected area. The temporal overlap in permit systems therefore leads to confusion and distrust from the public.¹²³ Local users of the lagoon frequently mentioned the WCNP to be dictatorial and mercenary. Many members of the public are also unhappy about limited access to the seashore and lagoon shore facing the Park. Regulations and their costs were detected to be much more easily accepted if coming from the official MCM than if stipulated by the WCNP.¹²⁴

¹²¹ See under *Water Quality Management Issues*.

¹²² Otto von Kaschke, manager, West Coast National Park, personal communication.

¹²³ The WCNP can only issue permits provided that DEAT permits had been granted already. The regulations of the Park's permits are identical to those of DEAT.

¹²⁴ See under *Marine Living Resources Management Issues*.

5.6 Towards integrated coastal management for the Saldanha Bay and Langebaan Lagoon system

5.6.1 *Enabling legislation*

It is promising that the changing socio-political climate in South Africa is promoting enabling legislation to facilitate more effective approaches to coastal management. Old acts are being revised and new acts reflecting necessary integration and holism, are gradually put in place. This change is however hollow unless its output is packaged to be used in conjunction with specific development programmes in particular areas. The creation, management, administration and implementation of the SIDZ near Saldanha Bay as the driving force behind the West Coast Investment Initiative will be enabled by the new Manufacturing Development Act. The WCII's policy documents, as one of the eight South African Spatial Development Initiatives, additionally espouse a commitment to ensuring environmentally sustainable development.¹²⁵ Whereas certain sections in the draft IDZ regulations of the Manufacturing Development Act highlight planning and environmental management, the model lacks accurate guidelines for overall coastal management in anticipation of future economic development.¹²⁶ It is therefore recommended to revise the draft model in putting more emphasis on enabling integrated environmental legislation and regulation.

5.6.2 *Institutional back-up*

The newly created authority for the enabling Manufacturing Development Act will be the Manufacturing Board. This body will therefore be responsible for the development, management, administration and implementation of the SIDZ programme.¹²⁷ It is therefore believed to be able to offer the ideal background for coordination and communication between the involved horizontal and vertical departmental levels, and parastatal and private stakeholders, non-governmental organisations, community-based user groups and the public. Though the creation of such a body is presently being discussed, the issue of its regional and representational extent remains only vaguely addressed. Since Vredenburg and Saldanha represent the hub of future industrial and commercial development, neighbouring centres (such as St. Helena Bay, Paternoster,

¹²⁵ See WCII (1997) op cit n6.

¹²⁶ See Chapter 2, Section 3; Chapter 4, Sections 9, 10, 11; Chapter 5 Section 22 op cit n7.

¹²⁷ Op cit n7.

Velddrif and Langebaan¹²⁸) will be directly faced with issues concerning control and management of the unavoidable socio-economic and environmental transboundary effects of an SIDZ. Nevertheless, key discussions concerning policy and management issues of the SIDZ were frequently addressed in their absence. But even if represented, many local municipalities are not well equipped to anticipate this role. Involvement of the Saldanha Bay Water Quality Forum and the Environmental Monitoring Committee in the management of the SIDZ, could therefore be ideal in providing professional support to the local authorities. Again, the managing Manufacturing Board would be an ideal catalyst to provide for this interaction.

5.6.3 Hands-on audits, tools and instruments

The facilitation of the SIDZ includes industrial, infrastructural, and human resources strategies. These instruments are eventually to be used by the responsible authority known as the Manufacturing Board.¹²⁹ Effective environmental management of anticipated developments however, requires forward planning and employment of environmental audits and tools too. On request of the WCII, a short review of the existing environmental information in the region was undertaken,¹³⁰ in addition to a planning audit. The report's list of recommendations was reviewed during the SIDZ's Environmental Planning Meeting on 25 January 1999. One of the key questions to guide discussion during this meeting was the issue of

... [] establishing an extensive and accurate "Environmental Management System" that would provide a basis for monitoring cumulative effects and approving applications for new industry in the IDZ'.

This system would not only cover biophysical aspects, such as environmental assessments and thresholds. It would consider the whole range of economic, social, infrastructure and planning issues representing the environment *s.l.*, such as local down sourcing of semi-products, change in employment and ownership, increased traffic flows, and the likely impact of an influx of workers. Disappointingly, the draft version of the SIDZ regulations does not mention the establishment and use of such an 'Environmental Management System'. It is therefore advised to seriously

¹²⁸ Paternoster, St. Helena Bay and Velddrif are pejoratively called 'de Agterbaai' or 'the Bay at the Back', pointing to their traditional neglect and insignificance in regional socio-politics.

¹²⁹ Op cit n7.

¹³⁰ Crowther Campbell Associates *Short Review of Existing Environmental Information* WCCI (1998).

reconsider the system's application and implementation. It is additionally recommended to extend it with the environmental control and management of developments other than industrial and outside the SIDZ-scope that might impact the bay and lagoon system as well. This will include maricultural, agricultural, infrastructural, fisheries and tourism related issues as identified by the WCII, in the discussion on the entire system's management.

5.6.4 Human resources and capacity building

New legislation and institutional arrangements increasingly involve local authorities and user groups in the planning and management of developments in their jurisdiction. While new functions are being appointed to grassroot levels and municipalities, methodologies with which to achieve them are also changing. Concepts such as public participation and value integration are becoming increasingly important. It is therefore important to inform and educate people in order to prepare them for their new functions. Human resources should not only be addressed in terms of quantity but above all by seriously developing a proper capacity building procedure.¹³² The new DEAT *Directorate of Environmental Capacity Building* is promising in that it will seek to coordinate capacity building programmes and to emphasise environmental education and awareness.¹³³

The creation of posts for municipal environmental managers to be represented at a central management board therefore becomes a "must" in the near future.

6 Conclusion

It is obvious that Saldanha Bay and Langebaan Lagoon play a crucial role in achieving the objectives of the WCII and the SIDZ proposals in particular. Changes in the biophysical characteristics of this bay/lagoon system will therefore have direct repercussions on the socio-economic system surrounding it. These changes however are introduced by the nature of socio-economic development itself.

This necessary but fragile interconnection requires an integrated and holistic approach to management. The changing socio-political climate in

¹³¹ Chittenden Nicks Partnership (1999) op cit n49.

¹³² See for example Oldfield & Parnell (1998) op cit n65.

¹³³ CMPP (1999) op cit n2.

South Africa is providing enabling legislation and creating or changing existing institutional arrangements to facilitate more effective approaches to coastal management. Moreover, a newly created institute is likely to take care of the region's developmental management. Though these changes create a solid framework for developing and implementing an integrated coastal management programme in the area, it will only prove possible if the right mix of relevant authorities and institutions are represented on fora and if issues beyond the well-being and control of the SIDZ alone will be addressed by a hands-on 'environmental management system'. Only this will prepare a central management body to give Saldanha Bay and Langebaan Lagoon the place they deserve in the region's development.

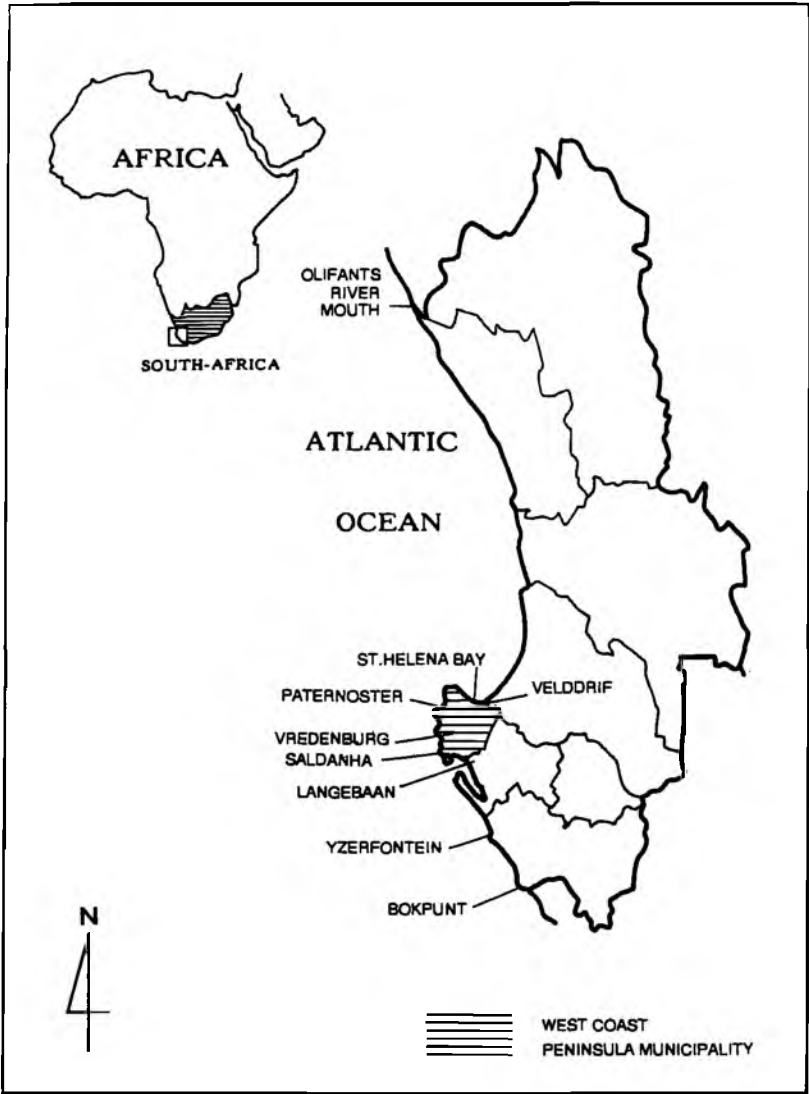
	Legislation	Institutions/ Parastatals	Issues
Land use planning	<ul style="list-style-type: none"> ➤ Local Government Transition Act (1993) (IDP) ➤ Western Cape Planning and Development Ordinance (1999) (IDF) 	<ul style="list-style-type: none"> ➤ Department of Land Affairs ➤ Western Cape Department of Planning, Local Government and Housing ➤ Local authorities 	<ul style="list-style-type: none"> ➤ Confusion about Integrated Development Plans (IDP) and Integrated Development Frameworks (IDF) ➤ Lack of experience and human resources for new land use planning ➤ Integration of SIDZ, residential pressure and physical access in land use plans
Water use planning	<ul style="list-style-type: none"> ➤ South African Transport Services Act (1981) ➤ Legal Succession to the South African Transport Services Act (1989) ➤ Marine Living Resources Act (1998) 	<ul style="list-style-type: none"> ➤ Portnet (for bay) ➤ Department of Environmental Affairs and Tourism (for fishing harbour waters) 	<ul style="list-style-type: none"> ➤ Water use plans made by Portnet but not legally binding ➤ Sincerity of Portnet in assessing port expansion alternatives ➤ Decrease of safety for water transport on the bay

	Legislation	Institutions/ Parastatals	Issues
Water quality management	<ul style="list-style-type: none"> ➤ Atmospheric Pollution Prevention Act (1965) ➤ International Convention for the Prevention of Pollution from Ships 1973 (MARPOL). ➤ International Health Regulation Act (1974) ➤ Health Act (1977) ➤ Marine Pollution (Control and Liability) Act (1981) ➤ Marine Pollution (Prevention of Pollution from Ships) Act (1986) (= MARPOL Act) ➤ Environment Conservation Act (1989) ➤ National Environment Management Act (1998) (accidents on land) ➤ National Water Act (1998) ➤ Marine Living Resources Act (1998) ➤ South African Maritime Safety Act (1998) ➤ Draft White Paper on Integrated Pollution and Waste Management (1999) 	<ul style="list-style-type: none"> ➤ South African Maritime Safety Authority ➤ Department of Transport ➤ Portnet ➤ Department of Environmental Affairs and Tourism (Environmental Quality and Protection) ➤ Department of Water Affairs and Forestry ➤ Department of Health ➤ Department of Foreign Affairs (international conventions) ➤ Western Cape Department of Environment, Sport and Culture ➤ Local authorities ➤ Saldanha Bay Water Quality Forum ➤ Environmental Monitoring Committee 	<ul style="list-style-type: none"> ➤ Complex coordination of different legislation and institutional arrangements for overall pollution management and specific pollution control ➤ Overlapping and skewed monitoring and lobbying system

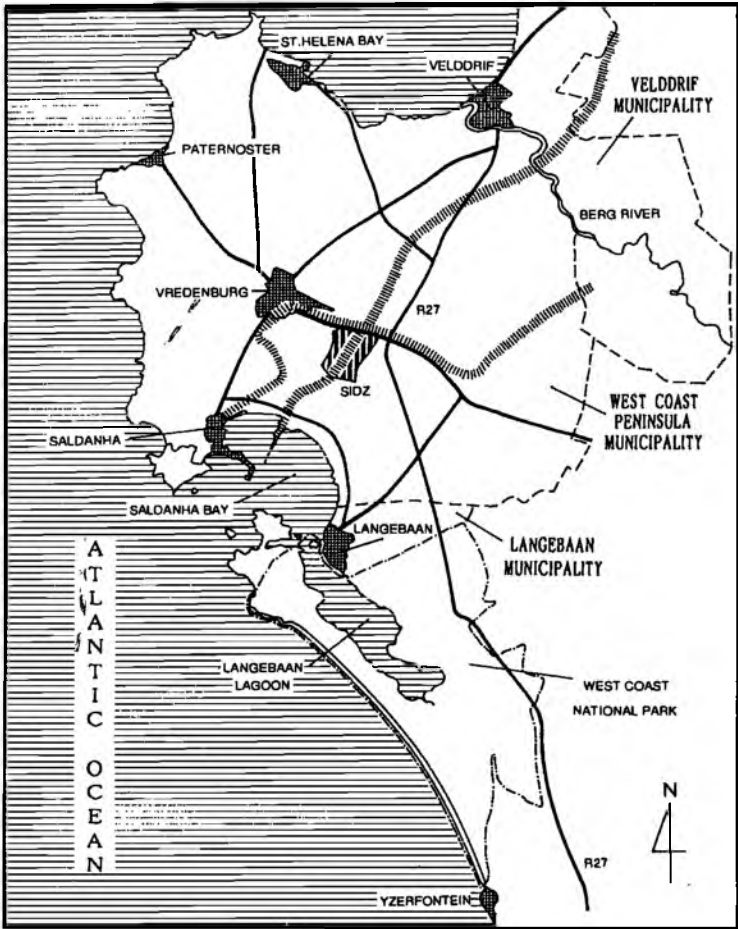
	Legislation	Institutions/ Parastatals	Issues
Marine living resources management	<ul style="list-style-type: none"> ➤ Marine Living Resources Act (1998) ➤ National Parks Act (1976) (for lagoon and waters around Park islands) ➤ Defence Act () (for military waters) 	<ul style="list-style-type: none"> ➤ Department of Environmental Affairs and Tourism (Marine and Coastal Management) ➤ National Parks Board (for lagoon) ➤ Department of Defence (for military waters) 	<ul style="list-style-type: none"> ➤ Reselling of re-distributed quota ➤ More costs and stricter regulations vs. less human resources and less proper management

	Legislation	Institutions/ Parastatals	Issues
Protected areas and resources management	<ul style="list-style-type: none"> ➤ Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1971) (Ramsar Convention) ➤ Western Cape Nature and Environmental Conservation Ordinance (1974) ➤ Protocol to amend the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1982) ➤ National Parks Act (1976) (for WCNP and partly for Postberg Nature Reserve) ➤ National Environment Management Act (1998) ➤ Marine Living Resources Act (1998) ➤ Defence Act () (for military areas) ➤ Western Cape Land Use Planning Ordinance (1985) (for Spreeuwal) ➤ National Heritage Resources Act (1999) ➤ National Heritage Council Act (1999) 	<ul style="list-style-type: none"> ➤ National Parks Board (for WCNP and partly for Postberg Nature Reserve) ➤ Department of Environmental Affairs and Tourism (Marine and Coastal Management) ➤ Department of Defence (for military areas) ➤ Department of Foreign Affairs (for Ramsar wetlands) ➤ Western Cape Department of Environment, Sport and Culture (Cape Nature Conservation) ➤ Western Cape Department of Planning, Local Government and Housing (for Spreeuwal) ➤ National Monuments Council 	<ul style="list-style-type: none"> ➤ Fragile protection status of military domains, Postberg Nature Reserve and Spreeuwal ➤ Issues for water quality management also relevant to lagoon quality protection ➤ Minor communication between WCNP and water quality management bodies of Saldanha Bay ➤ Importance of WCNP as major stakeholder in groundwater forum ➤ Overlap of resource use system of WCNP and Marine and Coastal Management

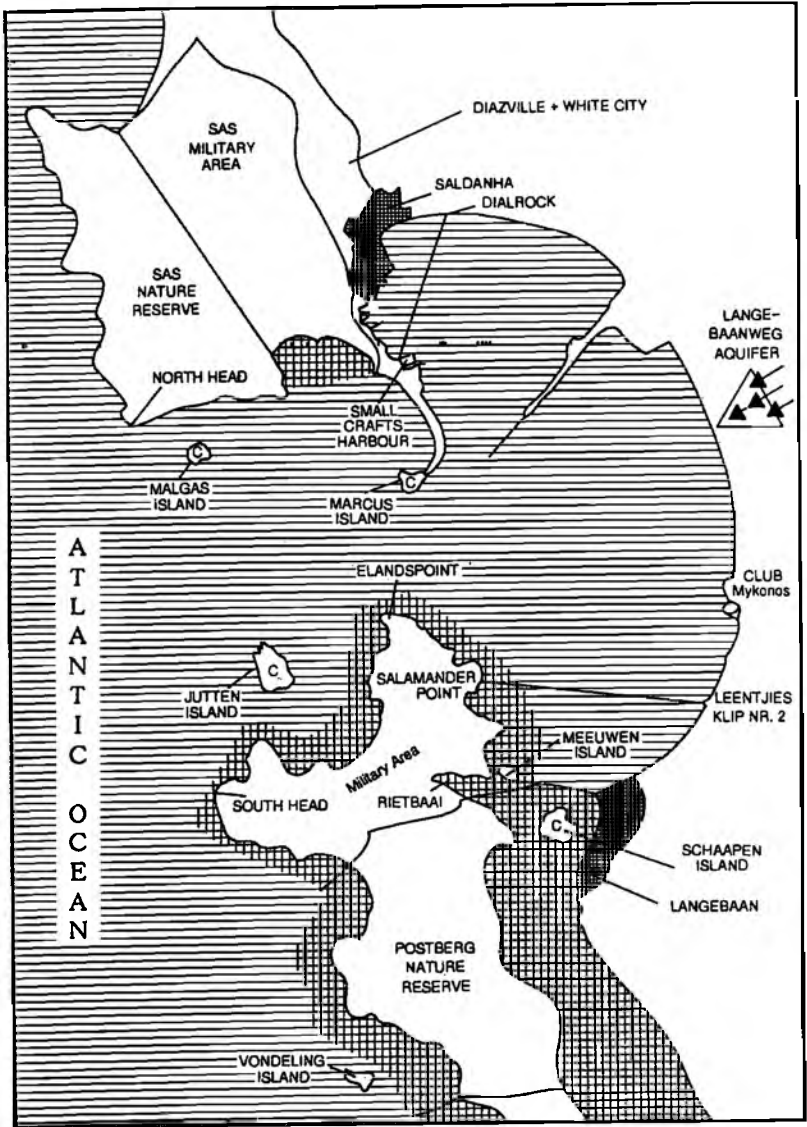
Map: The West Coast Region



Map: Greater Saldanha and Environs



Map: Saldanha Bay



Map: Langebaan Lagoon and the West Coast National Park

