

**STRATEGIC  
ENVIRONMENTAL  
ASSESSMENT**  
FOR THE MANAGEMENT OF  
ECOSYSTEM SERVICES  
WITHIN THE CAPE WINELANDS  
DISTRICT MUNICIPAL AREA

**SCOPING REPORT  
DRAFT FOR PUBLIC REVIEW**

July 2006



STRATEGIC ENVIRONMENTAL  
ASSESSMENT  
for the management of Ecosystem  
Services within the Cape Winelands District  
Municipal Area

**Scoping Report**  
Draft for Public Review

*July 2006*

<u>Prepared by:</u> <b>Benita Olen and Michelle Audouin</b> CSIR, Natural Resources and the Environment P.O. Box 320 Stellenbosch 7599	<u>Prepared for:</u> <b>Kelcy le Keur</b> Executive Director: Public Safety & Planning Services Cape Winelands District Municipality P.O Box 100 Stellenbosch 7599
<u>Internal Review by:</u> <b>Paul Lochner</b> CSIR, Natural Resources and the Environment P.O. Box 320 Stellenbosch 7599	

Stakeholder engagement coordinated by:  
Dawie Carolissen  
Carolissen Consultancy  
P.O. Box 7307  
Stellenbosch 7599

Please send your comments on this report to Dawie Carolissen by 29 January 2007

email: [d.4\\_carolissen@yahoo.com](mailto:d.4_carolissen@yahoo.com)  
Tel: 0722099635

Report no CSIR/NRE/RBSS/ER/2006/0095/C

# CONTENTS

1	Introduction to the SEA .....	1
2	What are ecosystem services? .....	1
3	What is an SEA? .....	3
4	Purpose of this report .....	4
5	The SEA process .....	4
5.1	<i>Phase 1: Scoping and Formulation of a Strategy</i> .....	4
5.2	<i>Phase 2: Formulation of the Strategic Environmental Management Plan</i> .....	5
6	The main outputs of the SEA .....	6
7	Draft Vision and Objectives .....	6
8	Stage 2: Scoping .....	10
9	Stakeholder engagement .....	12
10	Specialist input .....	13
10.1	<i>Ecosystem services provided by Biodiversity</i> .....	13
10.2	<i>Ecosystem services provided by water</i> .....	14
10.3	<i>Ecosystem services provided by soil (land)</i> .....	14
10.4	<i>Ecosystem services provided by air</i> .....	15
10.5	<i>Governance</i> .....	15
11	Next steps .....	16
	Appendix 1: Visioning Workshop: List of Participants .....	1
	Appendix 2: Scoping Workshop: List of Participants .....	2
	Appendix 3: Table of Ecosystem services, trends, threats, impacts .....	4

---

## 1 Introduction to the SEA

---

The vision for the Cape Winelands District, as presented in the spatial development framework (2005) is of “a safe, prosperous and united Cape Winelands where all its people enjoy high standards of living.” Three of the four objectives underpinning this vision relate to the creation of quality human settlements and infrastructure and the growth and diversification of the economy. However, the first objective listed is to “conserve and protect the natural environment.” This is of vital importance if the other three objectives are to be achieved.

The effective management of the ecological resource base is also a cornerstone of sustainability, a key principle adopted in the integrated development planning process, which is the primary instrument that governs local development. The principles of the Development Facilitation Act No.67 of 1995 (Chapter 1, Section 3 (1) (viii)), which were adopted in the Municipal Systems Act (2000), require the encouragement of “environmentally sustainable land development practices and processes.”

An important way in which to integrate the objectives of sustainability into strategic decision-making is through Strategic Environmental Assessment (SEA). Undertaking an SEA was identified in the District Municipality’s Spatial Development Framework (SDF) as one of the key strategic projects aimed at realising the recommendations contained in the SDF.

The District Council has therefore commissioned the CSIR to undertake an SEA which aims to provide a decision-aiding tool for the management of ecological resources within the District. The focus of this study is on formulating a strategy and implementation plan to sustain the ecosystem services on which the development of quality human settlements and the diversification of the economy depend.

---

## 2 What are ecosystem services?

---

Ecosystem services are the benefits that human beings derive from nature (Millennium Assessment, 2004)<sup>1</sup>.

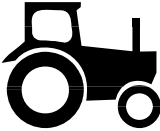



In the CWDM, ecosystem services are provided by biodiversity, water, land and soil, air, and the recreational and cultural resource made up by all of those preceding. Examples of ecosystem services in the CWDM are given below<sup>2</sup>:

---

<sup>1</sup> Scholes, R.J. and Biggs, R. (2004) Ecosystem Services in Southern Africa: A Regional Assessment, Council for Scientific and Industrial Research (CSIR), Pretoria.

<sup>2</sup> Holden, J.P., Ehrlich, P. 1974. Human population and the global environment. *American Scientist*. 62, pp282-292.

***Table 1: Examples of ecosystem services in the Cape Winelands District Municipality***

ECOSYSTEM SERVICE		BENEFITS TO PEOPLE IN THE CWDM
	<p><b>Provisioning</b></p> <ul style="list-style-type: none"> <li>• Production of soil and the maintenance of soil fertility through nutrient recycling processes</li> </ul>	<ul style="list-style-type: none"> <li>• Fertile soil for food and fibre production</li> </ul>
	<p><b>Regulating</b></p> <ul style="list-style-type: none"> <li>• Purification of air and water and the production of oxygen</li> <li>• Detoxification and decomposition of wastes</li> <li>• Control of many agricultural pests</li> <li>• Climate stabilisation and moderation of weather extremes and their impacts</li> <li>• Mitigation of droughts and floods</li> </ul>	<ul style="list-style-type: none"> <li>• Clean air and water for drinking, irrigation, watering livestock, maintaining gardens</li> <li>• Good health of people living in an environment where the spread of disease is prevented</li> <li>• Strong crops and the income earned from their production</li> <li>• Crops, people and their property, and livestock protected from injury, loss or damage from storms, heat waves and other extreme weather</li> <li>• Optimal food and fibre production and safety of people and property</li> </ul>
	<p><b>Cultural</b></p> <ul style="list-style-type: none"> <li>• Provision of aesthetic beauty and recreational opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• A beautiful place to live that tourists also want to see, bringing revenue to the area</li> </ul>
	<p><b>Supporting</b></p> <ul style="list-style-type: none"> <li>• Pollination of crops and natural vegetation</li> <li>• Cycling of nutrients</li> </ul>	<ul style="list-style-type: none"> <li>• Food and fibre production and a strong ecosystem</li> </ul>

The emphasis on ecosystem services in this SEA does not intend to diminish the importance of socio-economic development. However, for sustainable development to be achieved, such development needs to occur within the limits of what ecosystem services are able to provide. It also needs to maximise the opportunities provided by this environment. The aim in this study is therefore to define the ecological opportunities, constraints and strategies that can support future socio-economic development as already described in some detail in the District's Spatial Development Framework, amongst other documents. Socio-economic factors will, however, be considered in identifying the key ecosystem services to be studied and the opportunities and constraints that the ecological environment presents.

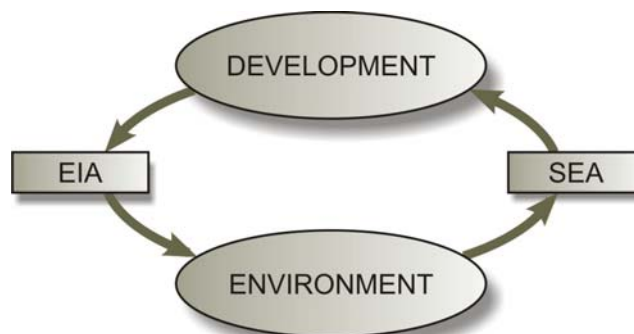
### 3 What is an SEA?

There are several definitions for an SEA and a myriad of roles and functions that an SEA process can perform. The definition of an SEA used here is based on the Department of Environmental Affairs and Tourism (DEAT) guideline document produced in 2000.

A Strategic Environmental Assessment (SEA) is a participatory process that can be used to proactively identify the environmental opportunities and constraints of a sector or region (in this case the Winelands District Council area of jurisdiction) for future development. These opportunities and constraints are then used as a basis for formulating strategies to guide future decision-making concerning development.

There are several differences between an Environmental Impact Assessment (EIA) and SEA that assist in understanding the role of each. In an EIA the impact of a development on the environment is identified, however, in an SEA the opportunities and constraints that the environment poses for development in general is identified (see Figure 1). In addition, an EIA relates to a particular proposed project, however, an SEA relates to the plan, programme or policy level of decision-making (typically called the strategic levels).

The SEA process proposed in this study is not a typical one as it has been tailor-made to the needs of the District Council. The process is strongly based on the key elements of SEA as described above, however, it can also be understood as a strategy formulation process



***Figure 1: Difference between SEA and EIA***

---

## 4 Purpose of this report

---

The purpose of this Draft Scoping Report is the following:

- To obtain your comments on the draft vision;
- To obtain your comments on the key objectives and issues that have been selected as the focus of this SEA; and
- To finalise the vision, objectives and issues to be addressed before developing the environmental strategy.

This draft report will be circulated to key stakeholders for comment until the 29 January 2007. Thereafter the vision, objectives and issues to be addressed will be finalised.

---

## 5 The SEA process

---

The SEA will be divided into two phases as follows (Figure 2):

### 5.1 Phase 1: Scoping and Formulation of a Strategy

This phase involves the development of a vision, a scoping process and the drafting of the environmental strategy.

*Vision and objectives:* The vision is an overarching statement of what the Municipality aims to achieve through the study and the implementation of the recommendations. A draft vision for this study has been developed based on discussions held at a visioning workshop which was attended by representatives of the District and Local Municipalities, as well as the CSIR Project Team. A key purpose of this draft Scoping Report is to present the draft vision to a broader range of stakeholders for their comment, before it is finalised.

*Scoping:* The purpose of scoping is to determine the nature and extent of the SEA, to ensure that it focuses on the key issues<sup>3</sup> and objectives that should be addressed. Such objectives and issues have been identified for this study through the outcomes of the visioning workshop described above, and a scoping workshop to which key stakeholders

---

<sup>3</sup> Key issues are overarching concerns that relate to the proactive guidance and management of smaller, more incremental decisions. They influence the wide social, economic and biophysical system and have implications for a range of spatial and temporal scales. Issues such as these that are relevant to this strategic study include, for example, the impact of the current state of water conservation and water management practice in the District.

were invited. A key purpose of this draft Scoping Report is to present these to a wider range of key stakeholders for their comment before they are finalised.

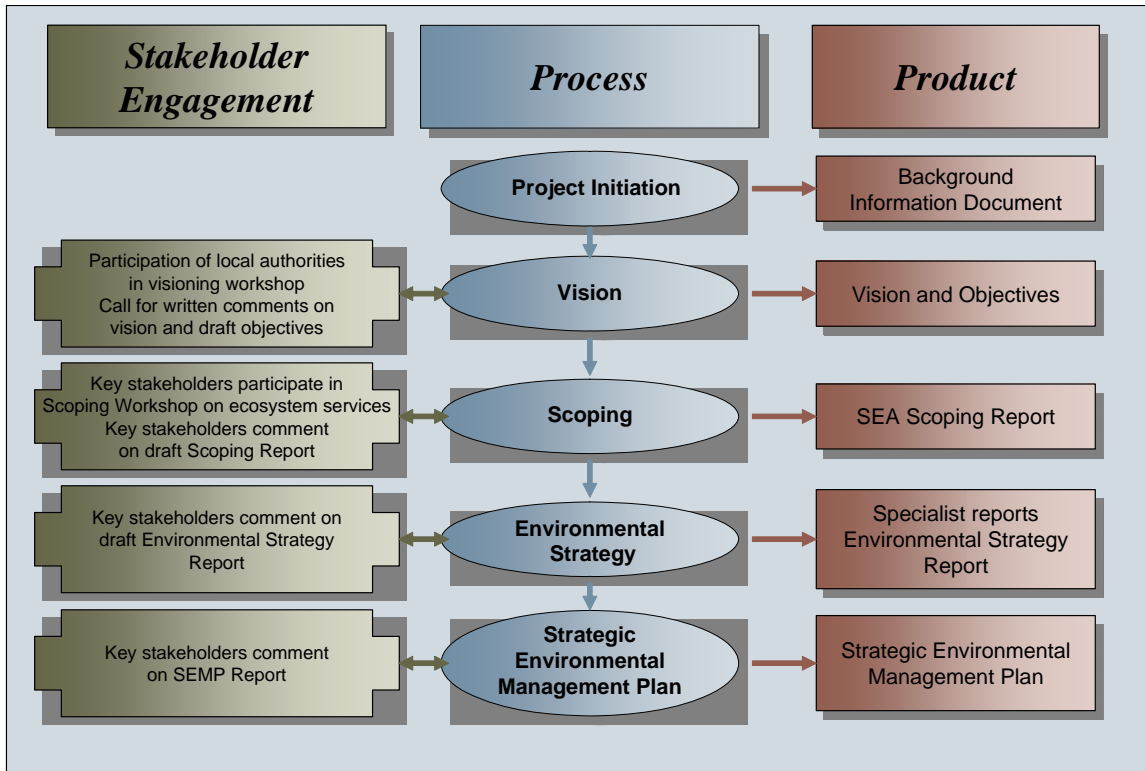
*Environmental Strategy:* Objectives and related strategies concerning the management of the ecosystem services within the Winelands District will be identified. This will be undertaken with the input of specialists and will be based on an overview of current trends related to the various ecosystem services. A draft Environmental Strategy Report will be produced, which will be finalised after comments have been received from key stakeholders.

## ***5.2 Phase 2: Formulation of the Strategic Environmental Management Plan***

*Strategic Environmental Management Plan:*

The final stage of the strategic environmental study is the development of a framework for decision-making to guide the sustainable management of ecosystem services in the Winelands District Council. The strategic environmental management plan (SEMP) will provide guidelines which will be suitable for incorporation into other planning and management processes within the District Council (e.g. future revisions of the Integrated Development Plan (IDP)). The guidelines will relate, for example, to requirements for capacity building, monitoring and institutional development. The SEMP will be developed with specialist input and circulated to key stakeholders for comment prior to its finalisation.





***Figure 2: SEA Process***

## **6 The main outputs of the SEA**

The main outputs of the SEA will be the Environmental Strategy Report and the Strategic Environmental Management Plan (SEMP). Both of these reports can be used to guide decision-making concerning development in the District Municipality in the future. The Strategy Report will provide overall direction, with the SEMP providing more detailed environmental guidelines that can be incorporated into the planning and implementation of development activities within the District.

## **7 Draft Vision and Objectives**

A draft vision for the SEA was formulated by representatives of the Cape Winelands District Municipality and the CSIR project team, based on the discussions held at a visioning workshop on the 14 February 2006 in Worcester. This workshop was attended by representatives of the Cape Winelands District Municipality and the Local Municipalities in the District. The draft vision was circulated to all who attended this workshop for their comments.

**Box 1: Vision**

The Cape Winelands District Municipality, together with its key stakeholders, effectively manages human activities to ensure the maintenance and enhancement of key ecosystem services within the area, for the benefit of all, now and into the future.

Those that attended the subsequent Scoping Workshop on 16 May 2006 (see Section 7) were given a copy of the draft vision on which to provide their comment. A key purpose of this report, however, is to encourage broader stakeholder comment on this vision and to finalise it before the drafting of the environmental strategy.

The key constraints to achieving the above vision were also identified at the visioning workshop. These constraints were summarised by the project team as shown in Box 2.

**Box 2: Constraints to achieving the vision**

- Lack of awareness and education;
- Inadequate planning framework and enforcement;
- Inadequate enforcement of by-laws;
- Lack of cooperation and coordination between the various spheres of Government;
- Lack of funding for human capacity;
- Lack of infrastructure (mainly sewage);
- Political short-termism;
- Lack of funding for environmental management (particularly around water); and
- Large scale issues (not directly the responsibility of the Winelands District Council eg. Impact of climate change)

These constraints were then converted into five draft objectives by the project team and representatives of the Winelands District Council. They were then expanded and amended in the light of the issues identified in the Scoping Workshop (Section 7). These objectives are desired “end-states” that are required if the vision is to be achieved and will guide the strategies and actions formulated in this SEA.

The objectives presented in the table below are broad and far-reaching and would require the participation of a large range of stakeholders to achieve. However, they are provided here as a “compass” for the Cape Winelands District Municipality to guide their environmental planning and management activities during the next 10 years. The strategy and management plan that will be developed through this SEA

process will indicate the strategies and projects that the Municipality aims to implement in order to start *moving towards* the objectives listed below.

***Table 2: Draft objectives for the maintenance of ecosystem services in the CWDM***

<p><b><i>1. Sustainable Economic Development</i></b></p>
<ul style="list-style-type: none"> <li>a. Producers in the CWDM benefit from the comparative and competitive advantages of ecologically sound production in the CFK.</li> <li>b. The nature-based tourism potential of the CWDM area is realized.</li> <li>c. All sectors of the economy are aware of the need for social upliftment and implement an effective social programme.</li> <li>d. Long term ecological, economic and social sustainability is assured in the agricultural sector, through large scale substantive adoption of crops, products and farming methods suitable to drier and hotter climates.</li> </ul>
<p><b><i>2. Institutional Capacity and Collaboration, Provision of Services and Law Enforcement</i></b></p>
<ul style="list-style-type: none"> <li>a. An effective, well resourced and coordinated fire management, emergency and disaster prevention programme is implemented across the CWDM area.</li> <li>b. Local authorities and others responsible for development planning and decision-making in the CWDM are aware of the potential social and environmental implications of all forms of development.</li> <li>c. Officials responsible for land use planning (including for housing) and local economic development planning in the CWDM have the capacity for sound planning (education, leadership, resources) and understand: the importance of maintaining ecosystem services, the socio-economic and biophysical implications of the loss of land to agriculture and the economic and health risks of inadequate provision of waste- and storm- water infrastructure.</li> <li>d. Legislation regulating the control of alien vegetation is effectively enforced and Programmes such as Working for Water and Working on Fire are substantively supported by the CWDM.</li> <li>e. Adequate water supply, wastewater treatment and stormwater management infrastructure is an integral part of all new development, and is maintained in good working order, to prevent contamination of natural waters.</li> <li>f. The CWDM collaborates with the Dept of Agriculture and relevant NGOs to provide extension and support to all farmers in the application of good agricultural practices that do not damage the land and take into account the effects of climate change.</li> </ul>

### ***3. Land Use / Development Planning and Resource Management***

- a. Development planning and decision-making is based on a comprehensive consideration of all potential impacts – ecological, economic and social – and includes the participation of all key stakeholders in the process.
- b. SDF's and IDPs provide a sound strategic planning framework for all new development in the CWDM area.
- c. The SEMP (Strategic Environmental Management Plan for ecosystem maintenance in the CWDM area) assists in making decisions in a more transparent and cohesive way
- d. Natural areas are set aside for recreational, cultural, spiritual purposes in the CWDM, are effectively protected and people are encouraged to use them with the necessary care.
- e. Expansion of agricultural development into fynbos is controlled to prevent fragmentation of ecosystems and loss of critical biodiversity.
- f. Land use planning and decision- making is coordinated at a local municipality level and between various spheres of government.
- g. Land use is planned for optimum availability of water for all land uses, with an emphasis on securing water for the ecological reserve and for priority land uses.

### ***4. Stakeholder Capacity (information, awareness, education, action)***

- a. Farmers, their labour and others working in the agricultural value chain, are assisted and supported by the local economic development (LED) offices, in diversifying their products, services and markets with due consideration to sustainability issues.
- b. An ongoing, well conceived and resourced education programme on the links between ecosystem services and satisfying basic needs, is implemented to ensure that all stakeholders understand the vital role of ecosystem services in economic development.
- c. Farmers and other land users are aware of the effects of ecosystem fragmentation and alien infestation on the provision of ecosystem services, as well as the influence of climate change on the type of crops that should be cultivated.

### ***5. Waste Management and Pollution Control***

- a. A coordinated and integrated pollution prevention and waste management strategy is implemented throughout the CWDM area, that includes provisions for air quality management

---

## **8 Scoping to identify key issues and trends**

---

The purpose of the Scoping process is to focus the SEA on the key issues to be addressed. These issues were identified primarily through the input received from participants at a Scoping Workshop, held in Worcester on the 16 May, to which key stakeholders were invited. This workshop was attended by participants from: the Cape Winelands District Municipality; the Western Cape Education Department; Stellenbosch Municipality, Breedevalley Municipality; Witzenberg Municipality; the Department of Social Services and Poverty Alleviation; the Rawsonville Advice Office; Distinctive Choice and the Gender Forum.

Subsequent to the opening address delivered by the Mayor of the District Municipality, Councillor Clarence Johnson, the CSIR project team provided background to the study and a description of the purpose of the workshop. Thereafter, the participants were requested to identify the main ecosystem services of importance in the District Council area. Ecosystem services were identified in relation to water; biodiversity; land and soil, air and recreational/cultural resources. The participants were then divided into two groups to address the following questions related to the ecosystem services identified:

- What are the current trends/changes within the ecosystem service?
- What are the threats to- and pressures on the ecosystem service?
- What are the primary impacts of these changes and threats?
- What is the desired future state (objective) related to the management of the ecosystem service?

The output of this process was integrated and interpreted by the CSIR project team, with a particular focus on identifying the most important ecosystem services and the current threats to their sustainability. The discussion in the workshop focused mainly on the first three questions, which formed the basis for the CSIR team to expand and amend the draft objectives that were identified during the visioning stage.

The draft integrated list of sources of key ecosystem services, trends, threats, impacts and objectives identified during the scoping phase is presented in Appendix A. A summary of this list, plus the issues identified in the visioning phase, is provided in the table below. These are the issues that will be considered in the SEA process.

***Table 3: Summary of key issues and trends to be considered in the SEA***

SOURCE OF ECOSYSTEM SERVICE	TRENDS
Water	<ul style="list-style-type: none"> <li>• Rapid expansion of inappropriate agricultural development in spite of climate change</li> <li>• Indiscriminate use of water, for example, for non water-wise gardening</li> <li>• Increased pollution of rivers and the deterioration of water quality</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>• Vineyards being developed on marginal or vulnerable land</li> <li>• Loss of biodiversity due to urban sprawl</li> <li>• Conflict between the need for conservation and the need for housing and infrastructure</li> <li>• Ongoing infestation of alien vegetation</li> <li>• Expansion of vegetable and fruit crops into fynbos areas</li> </ul>
Land and soil	<ul style="list-style-type: none"> <li>• Soil and land degradation</li> <li>• Use of high potential agricultural land for inappropriate land uses</li> <li>• Increased frequency of fire causing a loss of vegetation cover and increased erosion</li> <li>• Competition between land uses placing a stress on ecosystem function and services</li> <li>• Increased erosion of alien infested areas</li> </ul>
Air	<ul style="list-style-type: none"> <li>• Deterioration of air quality due to the increase in frequency of fires, industrial emissions, and the spraying of agrochemicals</li> <li>• No proper planning around renewable energy sources</li> </ul>
Recreational and cultural ecosystem services	<ul style="list-style-type: none"> <li>• Damage/loss of natural areas for recreation and cultural needs</li> </ul>

Several issues related to how governance affects the maintenance of ecosystem services in the CWDM area, were raised in the scoping workshop. These included:

- Conflicting government policies and development frameworks (e.g. the IDP and SDF are not always in alignment)
- Lack of integration in decision-making between different spheres of government. Unclear role definition.
- The responsibility for strategic planning is assigned to District Municipalities through the Municipal Systems Act. However, a limited degree of strategic development planning is currently being undertaken at the District level within the Cape Winelands area and therefore, a need exists for the District Municipality to formulate a strategic policy framework within which local land use and environmental planning can be undertaken. In addition, the capacity must be built

for strategic land use and environmental planning, implementation and monitoring within the District and Local Municipalities.

- Social and economic development decisions are often made at the expense of the poor, by those who have power over others. Decisions are not based on social and ecological principles but according to political agendas. Development decisions are not transparent enough.
- Inadequate strategic planning framework (e.g. better stakeholder engagement needed and more alignment with the priorities of local communities).
- Lack of funding and institutional capacity for environmental management activities (such as water management, law enforcements and the development of environmental and planning frameworks)
- Lack of awareness and education amongst many key stakeholders, concerning the need for healthy ecosystems and the risks associated with unhealthy environments.
- Inadequate enforcement of by-laws.
- Political short-termism, where economic priorities are placed above sustainability issues.

## 9 Stakeholder engagement

There are a number of stages within the SEA process at which the involvement of key stakeholders is crucial if the outcomes of the process are to effectively assist in the management of key ecosystem services within the District. These stages are described in Table 3 below.

***Table 4: Stages within the SEA process***

STAGE IN THE SEA PROCESS	STAKEHOLDER ENGAGEMENT	STAKEHOLDER INVOLVEMENT
<b><i>Phase 1</i></b>		
Visioning and Objectives	<ul style="list-style-type: none"> <li>• Formulate draft vision and objectives, based on the output of a visioning workshop. This workshop was attended by representatives from the District Council and the Local Municipalities in the District.</li> <li>• Circulate the draft vision and initial objectives for comment, to those that attended the visioning workshop.</li> <li>• Circulate the draft vision and initial objectives for comment to a wider range of stakeholders, through the distribution of the Scoping Report.</li> </ul>	<p>March 2006</p> <p>July 2006</p>

STAGE IN THE SEA PROCESS	STAKEHOLDER ENGAGEMENT	STAKEHOLDER INVOLVEMENT
Scoping	<ul style="list-style-type: none"> <li>Identify the key issues to be addressed in the study, based on the issues identified in a scoping workshop.</li> <li>Amend the initial list of objectives in the light of the outcomes of the scoping workshop.</li> <li>Circulate the draft scoping report to key stakeholders for comment.</li> </ul>	July 2006
Environmental Strategy	<ul style="list-style-type: none"> <li>Circulate the draft environmental strategy to key stakeholders for comment.</li> <li>Present the draft environmental strategy to the local municipalities.</li> </ul>	January 2007
<i>Phase 2</i>		
Formulation of the Strategic Environmental Management Plan (SEMP)	<ul style="list-style-type: none"> <li>Circulate the draft Strategic Environmental Management Plan to key stakeholders for comment.</li> </ul>	April 2007

## 10 Specialist input

Based on the outcomes of the scoping workshop with key stakeholders, as well as inputs from the project team, it is envisaged that the following specialist studies will be commissioned, to inform the development of the Environmental Strategy:

### 10.1 Ecosystem services provided by biodiversity

- Review of existing information (secondary sources) on the ecosystem service provided by biodiversity
- Description of the current status of biodiversity, existing biodiversity hotspots or sensitive areas, areas where ecosystems have been fragmented and where biodiversity has been lost or degraded, including factors causing the degradation
- Outline of relevant legislation and policy relating to the management of biodiversity as an ecosystem service
- Review of nature-based tourism potential from the perspective of the attraction of biodiversity as a natural, cultural and recreational resource, including an inventory of natural areas used for cultural, recreational, spiritual purposes, and broad description of current impacts of the tourism industry on this resource (input required from social anthropologist)



- Outline of current initiatives relating to management of biodiversity as an ecosystem service
- Provide recommendations for the Environmental Strategy and SEMP (including guidelines for decision-making).

*Issues that need to be considered in this study include:* loss of biodiversity due to urban sprawl, infestation of alien vegetation, habitat fragmentation, expansion of vegetable and fruit crops into fynbos areas, vineyards developed on marginal lands, conflict between the need for conservation and the need for economic development, links to existing initiatives such as the Biodiversity and Wine Initiative.

### ***10.2 Ecosystem services provided by water***

- Review of existing information (secondary sources) on the ecosystem service provided by water (quality and availability)
- Description of the current status of water use, availability and quality in the CWDM area highlighting problem areas and associated risks
- Outline of relevant legislation and policy relating to the management of water as an ecosystem service
- Outline of current initiatives relating to management of water as an ecosystem service
- Provide recommendations for the Environmental Strategy and SEMP (including guidelines for decision-making).

*Issues that need to be considered in this study include:* pollution of rivers, indiscriminate use of water for non-waterwise activities, expansion of agriculture in spite of climate change, ecological and health implications of inadequate waste water treatment and storm water infrastructure and the need for development to be within the constraints of available water supply.

### ***10.3 Ecosystem services provided by land and soil***

- Review of existing information (secondary sources) on the ecosystem service provided by the soil (land)
- Description of the current status of the soil as an ecosystem service, highlighting areas of degraded land in the CWDM area, and outlining causative factors for degradation
- Outline of relevant legislation and policy relating to the management of the soil (land) as an ecosystem service
- Outline of current initiatives relating to management of soil (land) as an ecosystem service
- Provide recommendations for the Environmental Strategy and SEMP (including guidelines for decision-making).

*Issues that need to be considered in this study include:* soil and land degradation, increased frequency of fires, competition between land uses placing stress on

ecosystem services, increased alien infestation, use of high potential agricultural land for inappropriate land uses, need for sustainable agricultural practices, socio-economic implications of agricultural activities, potential of nature-based tourism in the area,

#### ***10.4 Ecosystem services provided by air***

- Review of existing information (secondary sources) on the ecosystem service provided by the air
- Description of the current status of air quality including seasonal differences in the CWDM area, highlighting threats and associated risks
- Outline of relevant legislation and policy relating to the management of air quality as an ecosystem service
- Outline of current initiatives relating to management of air quality as an ecosystem service
- Provide recommendations for the Environmental Strategy and SEMP (including guidelines for decision-making).

*Issues that need to be considered in this study include:* deterioration of air quality due to industrial emissions, spraying of agrochemicals and an increase in the frequency of fires, planning around renewable energy sources.

#### ***10.5 Governance***

- Review existing institutional arrangements for the management of ecosystem services in the Winelands District Municipality
- Review legislative context (based on the input of other specialists) for the management of ecosystem services in the District Municipality
- Identify opportunities and constraints for improving the governance and management of ecosystem services in the District Municipality
- Provide recommendations for the Environmental Strategy and the SEMP.

*Issues that need to be considered in this study include:* Lack of coordination in decision-making between various sectors at the local level and between various spheres of government, lack of clarity around role definition, conflicting government policies and development frameworks, lack of capacity, need for improved strategic planning at the District level, need for greater transparency in decision-making and a better balance between the consideration of economic and social-ecological issues, lack of funding and institutional capacity, lack of awareness and education concerning ecosystem services amongst stakeholders and inadequate enforcement of by-laws.

---

## 11 Next steps

---

This draft of the Scoping Report has been reviewed by representatives from the Cape Winelands District Municipality. A key purpose of this report, however, is to elicit comments from a wider range of stakeholders, on the objectives, issues and terms of reference for the specialist studies to be undertaken. It is therefore distributed to key stakeholders to obtain comment and feedback. This report will then be finalised by the project team, who will use the findings of the specialist and other supporting studies to inform the development of the Environmental Strategy. This Strategy will focus on the broad initiatives that the Cape Winelands District Council can initiate to start moving towards the Objectives outlined in this report.

Please send your comments to Dawie Carolissen by the 29 January 2007 at:

[d.4\\_carolissen@yahoo.com](mailto:d.4_carolissen@yahoo.com)

TEL: 072 209 9635

FAX: Fax: 086 684 0866

# APPENDIX 1

**Appendix 1: Visioning Workshop: List of Participants**

**STRATEGIC ENVIRONMENTAL ASSESSMENT  
VISIONING MEETING**

**DATE: 14 FEBRUARY 2006**

**VENUE: WORCESTER**

<b>NAME</b>	<b>AUTHORITY</b>
1. Councillor Clarence Johnson	CWDM
2. Kelcy le Keur	CWDM
3. Adri Snyman	CWDM
4. Dirk J. Oosthuizen	CWDM
5. Neil Hamman	CWDM
6. Deon Adams	CWDM
7. Andries van Taak	CWDM
8. Francois van Eck	CWDM
9. Karen Harrison	CWDM
10. Joey Robyn	Stellenbosch Municipality
11. Phindi Dingile	Stellenbosch Municipality
12. Anneke Nieuwoudt	Stellenbosch
13. Alex Weaver	CSIR
14. Michelle Audouin	CSIR
15. Henri Fortuin	CSIR
16. Pat Nel	Witzenberg Municipality
17. Pieter Hartzenberg	Breedevalley Municipality
18. Colin January	Breedevalley Municipality

## APPENDIX 2

**Appendix 2: Scoping Workshop: List of Participants****STRATEGIC ENVIRONMENTAL ASSESSMENT  
SCOPING MEETING****DATE: 16 MAY 2006****VENUE: WORCESTER**

	<b>NAME</b>	<b>AUTHORITY</b>
1.	Councillor Clarence Johnson	CWDM
2.	Pamela Neleni	Breedevalley Municipality
3.	Edmund Pheko	CWDM
4.	TJ Pedro	Breedevalley Municipality
5.	K Shubani	Stellenbosch Municipality
6.	David Matunola	Western Cape Education Dept
7.	Kelcy Le Keur	CWDM
8.	Trevor Sampson	Gender Forum
9.	Adri Snyman	CWDM
10.	Johan Swanepoel	Witzenberg Municipality
11.	MS Manisi	CWDM
12.	Michelle. Audouin	CSIR
13.	Patrick O'Farrell	CSIR
14.	Phindi Dingile	Stellenbosch Municipality
15.	Anneke Nieuwoudt	Stellenbosch Municipality
16.	Willie Roux	CWDM
17.	Cornay Louw	Distinctive Choice
18.	O'Deal Cupido	Distinctive Choice
19.	Ilze de Kock	Dept of Social Services and Poverty Alleviation
20.	T Wehr	Breedevalley Municipality
21.	E Delpont	CWDM
22.	R Sayahl	Breedevalley Municipality
23.	N Gavu	Rawsonville Advice Office
24.	P Mafilivane	Rawsonville Advice Office
25.	Benita Olen	CSIR
26.	Paul Lochner	CSIR

---

## APPENDIX 3

---



### **Appendix 3: Table of Ecosystem services, trends, threats and impacts**

#### **Trends, Threats and Impacts on Ecosystem Services in the area of jurisdiction of the Cape Winelands District Municipality based on issues and concerns raised at the key stakeholder Scoping Workshop held on 16 May 2006 in Worcester**

<b>Ecosystem service / issue</b>	<b>Trends / Changes</b>	<b>Threats / Pressures</b>	<b>Impacts of changes (mostly primary)</b>
<i>Water</i>			
1. Sufficient quantities of water for all beneficial uses, including ecosystem maintenance	Rapid expansion of inappropriate agricultural development in spite of climate change (e.g. crops with high water needs such as fruit)	Ecosystem services cannot cope with overload e.g. water availability	Severe consequences during drought periods – possible collapse of viable production, job losses with few alternative opportunities for income earning
		Increased groundwater abstraction	Severe consequences during drought periods; lack of available water for other beneficial uses Foreclosure on future opportunities - no water for new development / socio-economic risk to community
		Possible new dam development	Inundation of wetlands and loss of wetland ecosystem services (filtration of dirty water, flood attenuation)
		Changes in market demand for certain crops (e.g. types of fruit that have a high water demand)	Water stress on other beneficial uses in the area (less water available), affecting ecological resilience and socio-economic opportunity

Ecosystem service / issue	Trends / Changes	Threats / Pressures	Impacts of changes (mostly primary)
		Lack of awareness or acknowledgement of risks of climate change (reduced rainfall / increased intensity of rainfall / higher temperatures / crop losses)	Severe damage to or potential collapse of agricultural sector leaving degraded land and large scale unemployment
		Tax avoidance through expenditure on new land development (expansion) which effectively reduces nett taxable income	Uncontrolled land development and degradation including loss of biodiversity, forecloses on opportunities for future land use for production or other uses
	Indiscriminate use of water for e.g. non-waterwise gardening	Inappropriate and uncontrolled land development and associated high water use	Water stress on other beneficial uses in the area, affecting ecological resilience and socio-economic opportunity
2. High quality water for all beneficial uses	Increased pollution of rivers (e.g. the Breede River) and deterioration of water quality	Infrastructure development has lagged behind the expansion of settlements, and contaminated stormwater and sewage spillages routinely enter rivers	High water treatment costs (local authorities and farmers) which are passed on to water users / ratepayers  Health risks (to people, livestock, crop contamination) especially since water is mostly abstracted or otherwise used directly from rivers
Lack of capacity for sound planning in the CWDM		Capacity for pollution of water resources is effectively built into new development – continuous and costly remedial measures need to be taken placing an economic burden on local authorities and water users	

Ecosystem service / issue	Trends / Changes	Threats / Pressures	Impacts of changes (mostly primary)
<b><i>Biodiversity</i></b>			
3. Contribution of biodiversity to maintenance of water quality, economic opportunity and development, tourism and recreation	Biodiversity and Wine Initiative – wine farmers in Stellenbosch and Franschhoek areas are joining in recognition of the importance of preserving biodiversity	The need for differentiation of South African products in the market	Economic growth and development through market advantage of Cape Floristic Kingdom wines (comparative and competitive advantage of “uniqueness”)
			Improved market / consumer awareness of the Cape Floristic Kingdom and consequent economic opportunity
			Conservation of biodiversity and strengthening of the resilience of the ecosystem
	Vineyards being developed on marginal or vulnerable land e.g. vineyards on steep slopes developed by investors in Stellenbosch area	Lack of / weak enforcement of planning controls	Loss of biodiversity and ecological resilience, especially in the face of climate change
	Loss of biodiversity due to spread of urban development (sprawl) and increased focus on issues such as housing to the detriment of the environment (ecosystem services) / Conflict between the need for conservation (of biodiversity) and housing needs – people may still settle on land set aside for conservation	Myopia in planning – lack of knowledge of fundamental role of ecosystem services  Conservation is not seen as a priority by low income communities	Loss of biodiversity and ecological resilience / undermining the integrity of ecosystem services to people for human and economic development
		Planning for adequate and appropriate provision of land for housing is lacking	Loss of biodiversity to settlement of land not planned or suitable for housing due to a lack of adequate and appropriate housing development

Ecosystem service / issue	Trends / Changes	Threats / Pressures	Impacts of changes (mostly primary)
	Ongoing infestation of alien vegetation	<i>See below (Soil / Land)</i>	<i>See below (Soil / Land)</i>
	Expansion of vegetables and fruit growing into fynbos	The promise of opportunity for profit orientated income generation (personal financial prosperity)	Loss and fragmentation of biodiversity makes the ecosystem vulnerable to irreversible damage e.g. invasion of pests, alien vegetation. Ecosystem is already challenged by climate change
<b><i>Land and Soil</i></b>			
4. Resource for food and fibre production (high potential agricultural land)	Soil and land degradation	Bad agricultural practices / abuse of land by other land uses, including injudicious waste management	Loss of productive capacity of the land for food and fibre production and other productive land uses, for current and future generations
	Use of high potential agricultural land for inappropriate land uses e.g. housing, golf course development, certain types of tourism development	Development of upmarket housing estates and golf courses is very lucrative	Change in function and character of the district ("sense of place") from rural to urban
			Socio-economic effects of job losses and loss of opportunity for employment in the agricultural value chain
Natural storm water runoff regime is changed (increasingly paved areas and loss of natural vegetation cover) and consequent flooding of e.g. housing			

Ecosystem service / issue	Trends / Changes	Threats / Pressures	Impacts of changes (mostly primary)
		<p>Increased demand for country homes / holiday homes to experience a farm lifestyle away from urban areas causing diminished opportunity for other productive land use (Issue raised as a concern in the WC SDF, especially in Drakenstein and Stellenbosch Municipalities)</p>	<p>Evictions of farm workers who have no other opportunity for income generation and consequent impoverishment and homelessness</p>
		<p>Poor market conditions for certain agricultural products, especially wine and fruit</p>	<p>Economic vulnerability of farmers and their workers</p>
		<p>The CWDM has not identified and set aside land for small and emerging farmers, since current IDPs do not address the needs of these farmers. There is a disconnect between the SDF and IDPs.</p> <p>Loss of access to land available for communal and other forms of grazing, and consequent effects on livelihoods of small and emerging farmers</p>	<p>Socio-economic effects of increased vulnerability of the livelihoods of small and emerging farmers</p>
	<p>Increased frequency of fire causing loss of vegetation cover and increased erosion</p>	<p>Climate change (hotter and drier summers)</p>	<p>Loss of productive capacity of the land for food and fibre production and other productive land uses</p> <p>Increased storm water runoff and flooding and consequent loss of water that could be used by others</p>

Ecosystem service / issue	Trends / Changes	Threats / Pressures	Impacts of changes (mostly primary)
			Loss of available grazing land leading to stock losses and socio-economic drain on farmers
			Loss of income from nature based tourism
		Encroachment of development into nature areas without implementing fire management practices	Increased risk of damage from fires leading to losses in grazing land, ecological resilience and income from nature based sources
		Lack of capacity for fire control and response	Uncontrolled and excessive damage to ecosystems and property (e.g. irreversible and widespread damage to fynbos ecosystems by runaway fires of Summer 2005/6)
	Competition between land uses (high vs. low priority) placing stress on ecosystem function and therefore services provided	Economics of land development – profit to be made from private land development (e.g. upmarket housing and tourism, industry vs. community development priorities of government	Shortage of land for priority land uses e.g. food production
		Conflict in perceived priorities e.g. conservation and housing provision causes ad hoc decision making	Foreclosure on options for alternative futures incorporating sustainability e.g. industrial development irreversibly changes the sense of place that would underpin tourism  and  Foreclosure on options for creating livelihoods - loss of land resource for production by emerging farmers and subsequent increased reliance and pressure on biodiversity and natural resource base for survival
			Loss of biodiversity and natural areas for conservation  Socio-political conflict around regarding perceived priority of conservation over housing (basic needs)

Ecosystem service / issue	Trends / Changes	Threats / Pressures	Impacts of changes (mostly primary)
		<p>Conflicting government policies and development frameworks – the SDF and IDP are not integrated / conflict</p>	<p>Planning environment is chaotic and decision making on land use planning becomes <i>ad hoc</i></p>
		<p>Lack of coordination and integration in decision making for different economic sectors and land uses e.g. decisions on housing development are made at national level, and economic development planning decisions are made at local authority level, with no integration</p> <p>The responsibility for strategic planning is assigned to District Municipalities in the Municipal Systems Act, but there is no department responsible for strategic planning in the CWDM. Land use planning, environmental planning and strategic planning is being mixed at “B” level.</p>	<p>Lack of effective integrated and strategic planning, leads to the inefficient use of resources and ad hoc decision making, that may not contribute to appropriate development</p>
	<p>Social and economic development decisions are often made at the expense of the poor, by those who have power over others. Decisions are not based on social and ecological principles but according to political agendas.</p>	<p>Some groups have greater access to power and therefore have influence in decision making.</p>	<p>Increased vulnerability of low income communities, however ultimately everyone loses out on intergenerational equity in their inheritance of the failure in ecosystem services</p>

Ecosystem service / issue	Trends / Changes	Threats / Pressures	Impacts of changes (mostly primary)
	Increased erosion from alien infested areas	Lack of support from landowners in removal of alien vegetation and consequent continued spread of aliens coupled with lack of enforcement of legislation / regulations for control of alien vegetation	Soil degradation caused by reduced rainwater infiltration in denuded areas and loss of productive capacity of the land following loss of topsoil
			Loss of appeal of the area for tourism due to negative visual impact of erosion
		Funding and management of alien vegetation are inadequate	Loss of control by government over the alien problem means continued spread and invasion, and a negative attitude of land owners to alien control
<i>Air</i>			
5. Clean air for people and livestock	Deterioration in air quality	Increased frequency of fires, industrial emissions, spraying of agrochemicals	Respiratory and other health effects on people and livestock, negative effects on crop yields and natural vegetation
<i>Recreational / cultural / spiritual / resource</i>			
6. Opportunities for recreation, satisfaction of cultural and spiritual needs in nature	Damage / loss of natural areas for recreation/cultural/emotional needs	Indiscriminate and poor land use and development planning	Psychological / emotional effects of the loss of recreational but especially cultural resources (e.g. increased social pathology, loss of social cohesion, loss of respect for nature and attendant protection of ecosystem services)

Other issues for specialists to investigate the links with the provision of ecosystem services:

- Land available for housing (general decrease in availability) and poor planning resulting in housing development in floodplains and other inappropriate locations (need better environmental assessment for housing, need awareness raising about floodlines)
- Mix of residential and farming activities
- Implications of population growth and e.g. overcrowding, expansion of informal settlements, spread of disease and other aspects of vulnerability of people
- General lack of understanding of the links between social, economic and ecological concerns across all levels of society



- Lack of understanding of the dynamics of the development of informal settlements, their structure, survival strategies of their inhabitants and what attracts people to particular settlements in particular locations
- The lives of farm workers have not changed since 1994 – The farming sector and the CWDM need to discuss social and environmental issues and all stakeholders must be involved including farm workers themselves. An awareness campaign is needed for farmers.
- Tourism is often developed at the expense of the poor e.g. farm worker cottages being turned into guest houses for tourism but results in evictions with socio-economic effects due to lack of housing and economic opportunity for creating livelihoods elsewhere.
- Contestation of land rights - Who owns tourism resources such as land?
- Externality of costs of land evictions or loss of livelihoods from being moved off the land – if people have to be moved off the land due to tourism developments, they should not also have to carry the social costs, as they do now.
- Transformation is required in the tourism sector (need specifics) – need to know what the social agenda of the tourism operators is