



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD



YOUR GUIDE TO CAREERS IN

ENVIRONMENTAL MANAGEMENT

Making progress possible. Together.

CONTENTS

INTRODUCTION	2	NATURAL SCIENCE RESEARCHER	22
CAREER OPPORTUNITIES	4	ENVIRONMENTAL AND HERITAGE RESOURCE MANAGER/OFFICER	23
FIELD: CONSERVATION MANAGEMENT	6	HISTORICAL ARCHITECT	24
BIODIVERSITY INFORMATION MANAGEMENT TECHNICIAN	7	FIELD: POLICY AND GOVERNANCE	26
BIODIVERSITY MONITOR	8	ENVIRONMENTAL ASSESSMENT PRACTITIONER	27
RESERVE MANAGER	9	ENVIRONMENTAL LAWYER	28
WILDLIFE VETS	10	POLICY MAKER AND ANALYST	29
FIELD: CONSERVATION OUTREACH	12	FIELD: COASTAL MANAGEMENT	30
EXTENSION OFFICER/PEOPLE AND CONSERVATION OFFICER/EDUCATION OFFICER	13	COASTAL RESOURCE MANAGER	31
SOCIAL SCIENTIST	14	COASTAL ENGINEER	32
FIELD: SYSTEMIC BIODIVERSITY PLANNING	16	MARINE SCIENTIST	33
SYSTEMIC BIODIVERSITY PLANNER	17	EMERGING CAREERS	34
ENVIRONMENTAL ENGINEER	18	CARBON FOOTPRINT/CLIMATE CHANGE/RESILIENCE ANALYST	35
STATISTICAL ECOLOGIST	19	ENVIRONMENTAL ECONOMIST	36
TAXONOMIST	20	CAREER PATH	38
CURATOR	21		

INTRODUCTION

The City of Cape Town, like other municipalities, has an Environmental Management Department that is responsible for implementing the City's Environmental Strategy, and working with a range of departments and external partners to ensure Cape Town's long-term environmental sustainability. Within this department, there are various career opportunities for people who are interested in working with the natural world around us, people and their cultural heritage.

The department comprises several branches, each with a unique focus area:

The **Biodiversity Management branch** is tasked with conserving and restoring Cape Town's unique biodiversity. This includes managing 20 nature reserves and other conservation areas, which make up much of the natural space in Cape Town. Other responsibilities include conservation planning, environmental education, skills development and invasive alien species management, where job creation is an important component of the work.

The **Coastal Management branch** assumes accountability for, and the management of, the City's coastline (seaward of the defined coastal edge) to ensure ongoing economic growth and opportunities. This includes improving access, creating higher social value, reducing coastal risk and effectively managing and conserving the natural coastal environment and systems.

The **Environmental Compliance branch** is responsible for ensuring that the municipality's environmental laws, by-laws, policies and procedures are complied with. Their tasks range from conducting environmental compliance inspections and audits of the City's facilities, to enforcing civil and criminal environmental laws. This branch also provides environmental spatial data for biodiversity, wetlands and coastal regions, and manages the citywide Environmental Risk register.

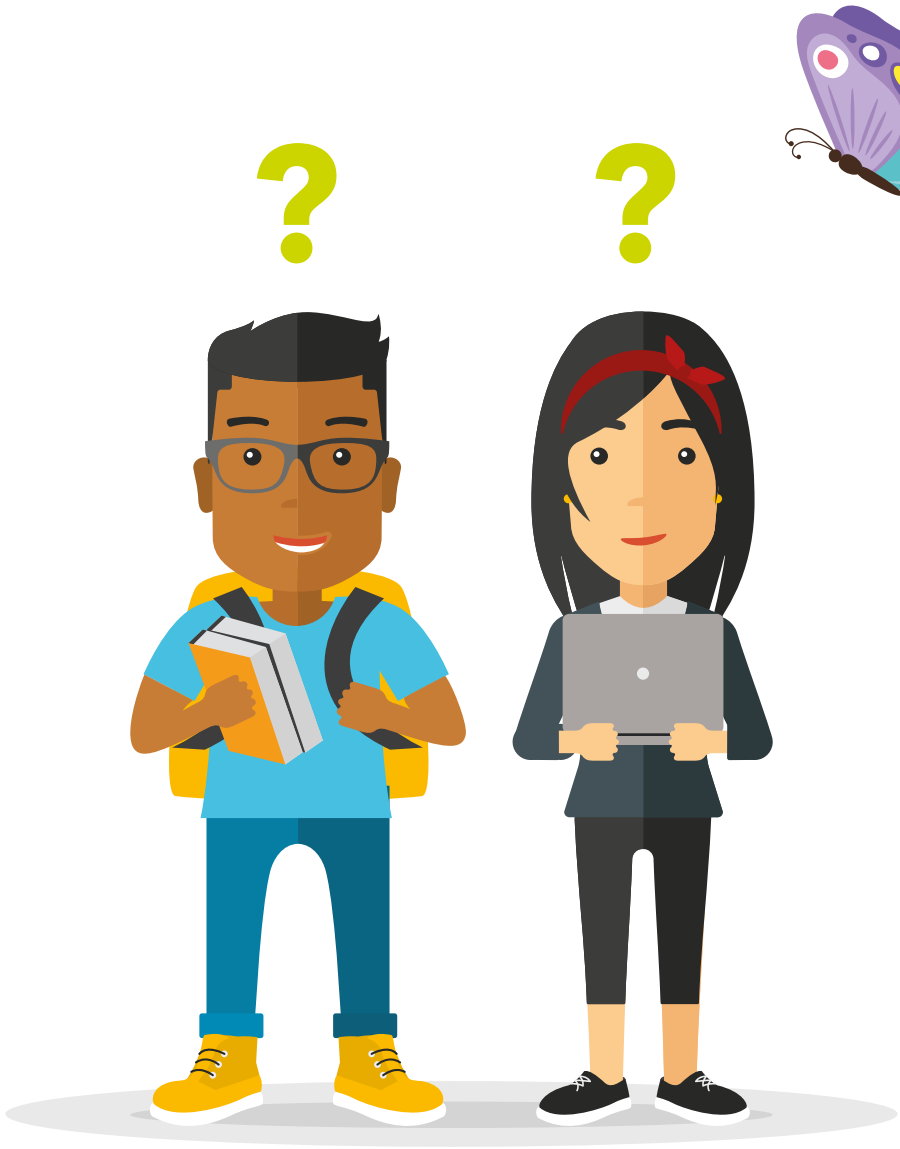


The **Environment and Heritage Management branch** proactively conserves, integrates and manages the city's cultural heritage assets and resources in attempts to retain the City's unique identity and cultural landscapes. Area-based officials focus on environmental, heritage and outdoor advertising legislation and policies, and work with communities to maintain and enhance our shared heritage.

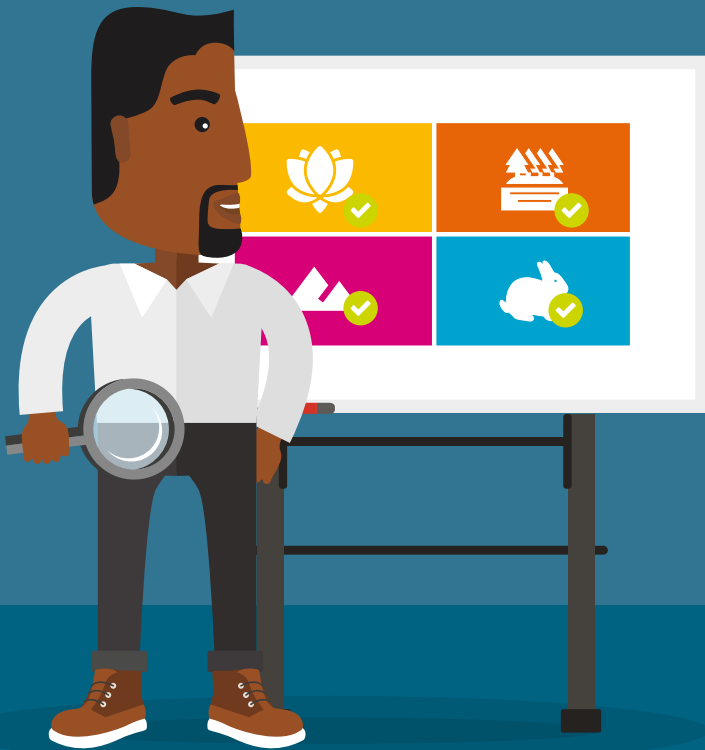
Environmental Planning and Sustainability branch helps the City embrace and implement a clear and up-to-date environmental strategy and policy, and embeds sustainability principles in all sectors of the City. This branch implements the City's climate change policy, strives to conserve resources, manages efficiency, conducts environmental reports and plans and coordinates climate change adaptation as well as natural open space systems in Cape Town. The branch is also responsible for environmental communication, education, training and development as well as planning and prioritising the department's capital programme, overseeing key partnerships and coordinating and implementing key catalytic projects.

CAREER OPPORTUNITIES





FIELD: CONSERVATION MANAGEMENT





BIODIVERSITY INFORMATION MANAGEMENT TECHNICIAN

This is a dynamic, fast-evolving field, with a focus on capturing biological and spatial data and subsequently analysing and interpreting it to develop policies, predict changes, plan appropriate responses and generally manage biodiversity. This role's tasks include researching, interpreting, analysing, organising, presenting and communicating biodiversity information, and compiling spatial maps that include details on various plants, animals and habitats. Technicians generally work indoors in a shared environment with a computer and automated equipment.

Skills: Good information and computer technology skills, knowledge of biodiversity and ecosystems, mathematical and analytical skills, spatial reasoning abilities, modelling skills, being meticulous and accurate while paying close attention to detail and social engagement skills to understand the use of information as well as interpret the needs of client departments.

Future focus/emerging skills: The increasing rate of biodiversity loss due to habitat destruction and the climate crisis is elevating the importance of research and conservation.

High school subjects: Mathematics, Information Technology, Computer Applications Technology (CAT), Physical Sciences and Life Sciences.

Tertiary education: BSc¹, BA² or BSocSci³ specialising in Environment Management, Geography, Mathematics and/or Computer Science. National Diploma in Environmental Management, Nature Conservation or Computer Science.

1 Bachelor of Science

2 Bachelor of Arts

3 Bachelor of Social Science



BIODIVERSITY MONITOR

Responsible for collecting data, and monitoring and reporting on the state of biodiversity to keep an account of patterns and trends. Biodiversity monitors also use scientific research methods to collect ecological data and analyse the spatial distribution of species and habitats - particularly those that are threatened and/or protected. Due to primary data collection, they spend most of their time in the field. However, biodiversity monitors also receive raw data from other scientists that they process in an office environment with computers and automated equipment.

Skills: Understanding biodiversity patterns, trends and indicators; a sound knowledge of environmental policy and legislation; the ability to work independently; an aptitude for computers and statistics; good interpersonal skills (particularly when working closely with other scientists) and a keen interest in ecology, species and habitats.

Future focus/emerging skills: The increasing rate of biodiversity loss due to habitat destruction and the climate crisis is elevating the importance of research and conservation.

High school subjects: Mathematics, Information Technology, CAT, Physical Sciences and Life Sciences.

Tertiary education: BSc, BA or BSocSci specialising in Environmental Management, Geography, Mathematics and/or Computer Science. National Diploma in Environmental Management, Nature Conservation or Computer Science.



RESERVE MANAGER

The career path of a field ranger can lead to the position of reserve manager. These individuals are responsible for securing biodiversity by maintaining and conserving land and natural resources within protected areas (i.e. nature reserves and national parks). In practice, they focus on extensive planning, operational-, financial- and human resource management. A recent acknowledgement is the need to engage with communities adjacent to parks and reserves and those who use these areas for recreation. Reserve managers work with all sectors of society including schools, industries, businesses, civil society and governing agencies. They work in natural environments, but perform management and administrative tasks indoors.

Skills: Leadership, management and business acumen are key skills. These include visionary and strategic thinking skills, planning and organisational skills, strategic human resource management skills and communication skills, across multiple stakeholder groups and across hierarchical levels. They also need to be highly organised and reliable.

High school subjects: Mathematics, Geography, Life Sciences and Physical Sciences.

Tertiary education: BSc or BTech⁴ specialising in Ecology or Nature Conservation, coupled with extensive experience in park and reserve management.



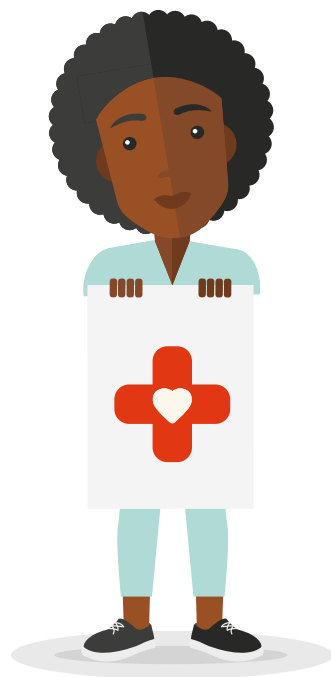
WILDLIFE VETS

These vets carry out clinical and surgical procedures on wildlife species. They are also involved in disease research, managing breeding projects and rehabilitating or euthanising injured animals. Most wildlife vets work outdoors with animals on game farms, and in nature reserves or urban areas. However, some time may be spent in a laboratory performing tests or doing research, in consulting rooms and surgeries or giving lectures at educational institutions. Much of the work revolves around handling and working with animals.

Skills: Excellent technical knowledge, the ability to diagnose and solve animal health problems, and to perform clinical and surgical procedures. Vets need to have empathy for animals, good vision, hearing, stamina and health, and the ability to think and act quickly and calmly. Wildlife vets should also have good communication skills.

High school subjects: Mathematics, English at Home or First Additional level, Life Sciences, Physical Sciences and Geography.

Tertiary education: BVSc⁵ at University of Pretoria's Onderstepoort campus near Pretoria. This is a six-year degree and the only route to becoming a vet.





FIELD: CONSERVATION OUTREACH





EXTENSION OFFICER/PEOPLE AND CONSERVATION OFFICER/ EDUCATION OFFICER

These officers form a link between research and the public (farmers, landowners, land users and students/pupils) and support decision-making by providing information on sustainable practices. Information about biodiversity is increasingly important to all engagement groups and should link back to the latest research. Extension officers mainly work outdoors, visiting engagement groups and individuals, but also spend time in the office researching and developing plans for sustainable practices.

Skills: Communication and interpersonal skills are vital, as well as knowledge of farming and the environment, planning and project management.

Future focus/emerging skills: The impact of the climate crisis on food and seed security (resilient agriculture), the food-water-energy nexus and urban agriculture are all areas of relevance for the future. The increasing rate of biodiversity loss impacts our future resilience in many ways, and so, should also be considered.

High school subjects: Mathematics, Life Sciences, Physical Sciences, Agricultural Sciences, Geography and Economics.

Tertiary education: BSc.



SOCIAL SCIENTIST

Social scientists plan and undertake research with people related to their environment. Common approaches are environmental education, research, stewardship and community-based natural resource management. They work closely with communities (such as farmers, teachers and learners), entrepreneurs and various industry role players. They may engage with government policies through developing policy briefs and producing scholarly and/or popular articles. Social scientists also present talks and engage in dialogue with different stakeholder groups.

They seldom work alone and therefore should be able to work in multi-disciplinary teams with other experts, scientists, educators, policy makers and/or biodiversity professionals. Their work is undertaken in both an office environment and outdoors.

Skills: A passion for people and making a contribution to people's understanding of nature and society, and the best ways to manage the environment. An ability to work with a variety of social research methods; strong interpersonal, computer and observational skills as well as a deep sense of curiosity. Social scientists should also have strong analytical abilities; attention to the detail and accuracy of information; display conceptual, analytical and creative abilities and enjoy problem-solving.

Future focus/emerging skills: Tourism activities, particularly the growth in eco-tourism and community-based tourism, are placing increasing demands on environmental resources.

High school subjects: Mathematics, English at Home or First Additional level, Life Sciences, Geography and any other African language(s).

Tertiary education: BA or BSocSci (humanities degree) specialising in Psychology, Geography, Anthropology, Education, Community Extension and/or Environmental Science. National Diploma in Community Extension.



FIELD: SYSTEMIC BIODIVERSITY PLANNING





SYSTEMIC BIODIVERSITY PLANNER

Increased environmental awareness has resulted in a greater focus on waste minimisation, resource management, pollution prevention and environmental consideration. This shift in emphasis will provide many new opportunities for biodiversity planners.

Biodiversity planners develop management strategies for priority conservation sites. They also decide on the systems, tools and infrastructure to be used for the management and restoration of such sites. Biodiversity planners use computers and information technology equipped with GIS computer-aided design (CAD) programmes or other mapping/diagramming software to create maps/diagrams that communicate their plans. They also conduct environmental impact studies to examine the ecological effects pollutants, disease, human activities and climate change have on specific areas.

The work involves an interesting combination of being outside surveying the landscape and working indoors with computers, maps and legal policy documents. Biodiversity planners work with other environmentalists and authorities to supervise the implementation of environmental management, protected area expansion and restoration projects.

Skills: Data collection and interpretation skills; knowledge of environmental policy, legislation, trends and patterns; report writing; model development and innovative problem-solving skills.

High school subjects: Mathematics, English at Home or First Additional level, Geography, Physical Sciences, Life Sciences, Business Economics, Tourism and Economics.

Tertiary education: BA specialising in Geography or Regional and Town Planning or BSc in Environmental Science. National Diploma in Environmental Management.



ENVIRONMENTAL ENGINEER

Environmental engineers are concerned with assessing, advising and managing the effects of human and other activities on the natural and built environment. They apply their knowledge of civil engineering, biology and chemistry to provide solutions that aim to maintain and improve environmental quality, compliance and the use of resources.

Environmental engineers also provide practical solutions to environmental problems. More specifically, they plan, design, repair and build public infrastructure that minimises environmental impact. Examples of this include water and sewage treatment plants, landfill sites, storm water drainage systems and river control works. They typically work outdoors, but do spend some time indoors in an office environment when developing strategies and communication plans.

Skills: Good mathematical and technical engineering skills coupled with an understanding of environmental impact, the ability to work independently and in a team, good verbal and written communications skills and judgment and problem-solving abilities.

Future focus/emerging skills: Areas of innovation include green infrastructure and pollution control.

High school subjects: Mathematics, English at Home or First Additional level and Physical Sciences.

Tertiary education: BEng⁶ or BSc Eng⁷, for example, Civil Engineering, with Environmental Engineering as a specialisation. National Diploma in Engineering.

⁶ Bachelor of Engineering

⁷ Bachelor of Science in Engineering



STATISTICAL ECOLOGIST

Statistical ecology is a subfield that focuses on applying statistics to ecological problems. Statistical ecologists use and develop statistical methods for ecological application and prediction, with their work cutting across different areas of expertise like hydrology, ecology and climate science. They generally work in an office environment and spend most of their time with computers developing statistical models and writing scientific journal articles.

Skills: A good aptitude for mathematics and problem solving, critical thinking ability, good understanding of ecological systems and scientific methods.

Future focus/emerging skills: Planning for resilience in light of the climate crisis is a critical focus area.

High school subjects: Mathematics, Geography, Life Sciences and Physical Sciences.

Tertiary education: BSc in Ecology or related subject, with statistics part of the course. Other important subjects are Conservation Research, Mathematics and Computer Science.





TAXONOMIST

Taxonomy involves discovering, naming, describing and classifying living organisms and fossils. Taxonomists collect plants, animals, fungi and/or micro-organisms to study them and group them according to patterns of similarity and variation. They spend their time in the field collecting specimens and in museums or herbaria (a building with a collection of dried plants) studying preserved specimens. They do most of the work in a laboratory or office environment. Genetic research is now often included in taxonomy too.

Skills: A keen interest in Life Sciences, excellent research and problem-solving skills, good capacity to observe with great attention to detail, being comfortable with working outdoors and in a laboratory, ability to work within a team and independently, good writing skills and strong interpersonal skills.

High school subjects: Mathematics, English at Home or First Additional level, Geography, Life Sciences, Physical Sciences and Information Systems.

Tertiary education: BSc Hons⁸, MSc⁹ or PhD¹⁰ in Zoology, Entomology, Botany, Microbiology or a related field of study (preferably MSc or PhD). Additional courses for a career in taxonomy are Mathematics and Statistics.

8 Honours

9 Masters

10 Doctorate



CURATOR

Curators are custodians and managers of a wealth of ecological information. They collect and take care of specimens including plant, insect, marine and terrestrial flora and fauna. They work in museums, national parks and botanical gardens. Collections are used for educational and recreational purposes. They are very valuable sources of information for research and managing conservation. Curators use sophisticated software and electronic databases to store and catalogue information.

Skills: Analytical thinking and research skills, technical environmental aptitude, organisational and administrative ability, attention to detail and computer skills.

High school subjects: Mathematics, Geography, Life Sciences, Physical Sciences and Information Systems.

Tertiary education: BSc (preferably MSc or PhD) in Botany and Zoology.



NATURAL SCIENCE RESEARCHER

Natural science researchers specialise in the study of animals (zoologists), plants (botanists) or the interactions between them (ecologists) within specific ecosystems like coastal dunes, rivers, forests or deserts. They engage with systematic research using scientific methodologies to gain a comprehensive understanding of natural environments.

They publish research and scientific papers, and their findings can be used to inform the management of natural areas. Most research is undertaken in the laboratory and office, but some research is conducted outdoors.

Skills: An understanding of scientific research methodologies; working with figures, information technology and technical apparatus; precision; attention to the detail and accuracy of information; analytical and creative skills; good computer skills to capture, manage, analyse and present data and good verbal and written communication skills.

Future focus/emerging skills: Watershed/wetlands ecology, urban ecology, restoration ecology, air quality, soil conservation and restoration all require increased focus.

High school subjects: Mathematics, Geography, Life Sciences, Physical Sciences, Information Systems and CAT.

Tertiary education: BSc Hons, MSc or PhD specialising in Ecology, Botany, Zoology, Biology, Geography (MSc or PhD).



ENVIRONMENTAL AND HERITAGE RESOURCE MANAGER/OFFICER

These officials advise on and promote the conservation of the historic environment, particularly in the areas of long-term care, preservation and enhancement. They report and advise on buildings, structures and areas of special historic, architectural or artistic interest so that they comply with cultural and environmental legislation.

Building plans are submitted to the resource manager or officer who ensures that these building or development plans will not damage a site's heritage or the environment in any way. They often make on-site inspections to examine the accuracy of the building plans and offer advice or alternate solutions if there is a legal issue.

Skills: Problem-solving, research skills, analytical thinking, monitoring, computer skills, people skills and good verbal and written communication.

High school subjects: Mathematics, Physical Science, History, Languages and Life Sciences.

Tertiary education: Degree with a major in Heritage and/or Environmental Science. Architectural or Urban Design degree.



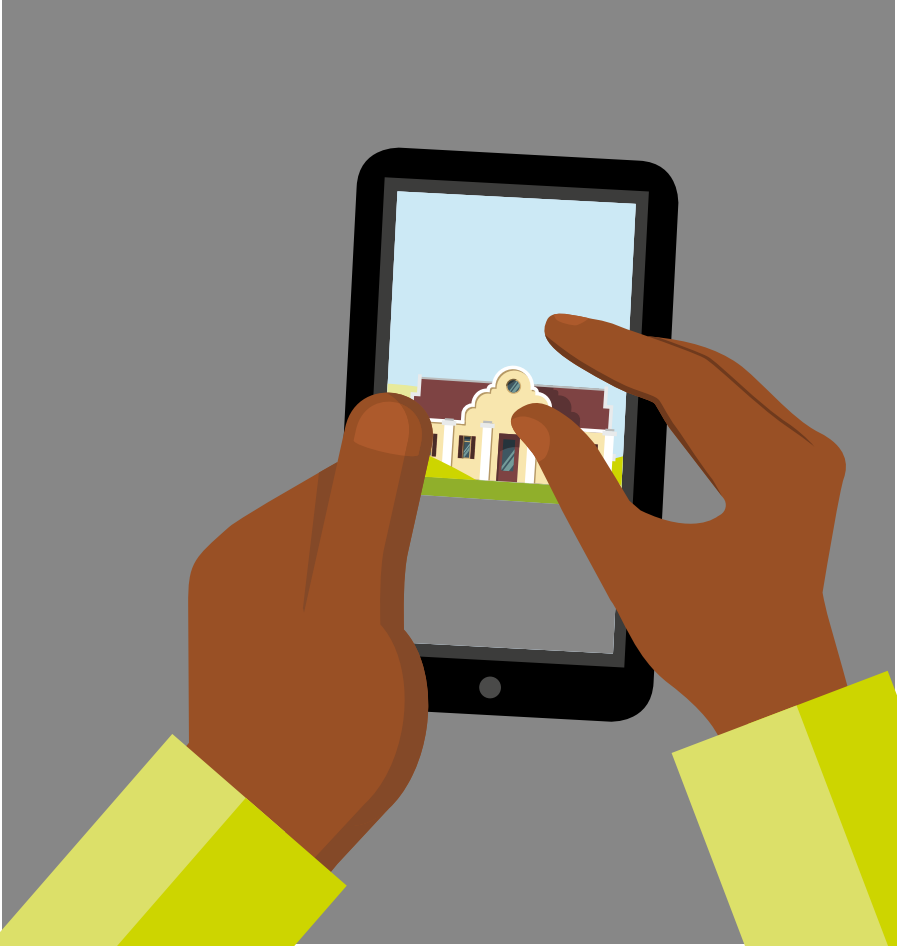
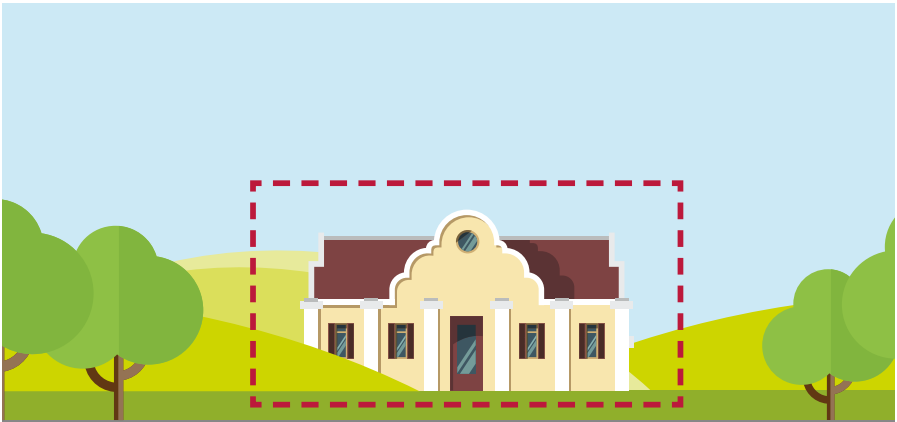
HISTORICAL ARCHITECT

Historical architects design and implement the restoration of heritage buildings and features that have fallen into disrepair. In order to maintain a heritage region's historic look and feel, they also support or reject building or development plans based on protective heritage laws that aim to maintain the distinctive character of an area. They often visit sites to ensure the approved designs are being followed during construction.

Skills: Ability to interpret information, draw and design; attention to the detail and accuracy of information; analytical and creative skills; good computer skills to capture, manage, analyse and present research and good verbal and written communication skills.

High school subjects: Mathematics, Geography, Physical Sciences, History and Visual Arts.

Tertiary education: A relevant Bachelor's or Master's degree or equivalent qualification in a spatial field such as Architectural Technology, Architecture, Regional Planning or Urban Design. Mathematics, History and Visual Arts are recommended.



FIELD: POLICY AND GOVERNANCE





ENVIRONMENTAL ASSESSMENT PRACTITIONER

Environmental assessment is an evolving field emerging from developing legislation to support environmental compliance. Practitioners work as part of a team of experts to conduct environmental impact assessments to determine the effect that developments are likely to have on the environment and society. To ensure ethical conduct, they work within a framework of standards and regulations outlined by the newly established Environmental Assessment Practitioners Association of South Africa.

Skills: Excellent research and analytical skills; ability to think logically, analytically and independently; good communication and report writing skills and an understanding of social and environmental policy and legislation.

High school subjects: Mathematics, English at Home or First Additional level, Physical Sciences, Life Sciences and Geography.

Tertiary education: BSc degree in Environmental Science, Geography, Natural Science or Social Science – or a National Diploma in Environmental Management.



ENVIRONMENTAL LAWYER

Environmental law is a relatively new and exciting field. Environmental lawyers use legal skills and training to develop policies and engage in litigation that prevents environmental damage, enforces environmental compliance and ensures that people who have suffered harm or loss as a result of environmental degradation are adequately compensated.

They play a key role in the system of checks and balances that prevent government and big business from engaging in practices that undermine the natural environment and harm people in the process. Environmental law is practiced in a variety of settings; with most of the work undertaken in an office. Environmental lawyers also often travel to court and sites of complaints and transgressions. Time might also be spent in record rooms and archives.

Skills: A good knowledge of environmental policy and legislation and legal processes; good listening skills; ability to interpret, strategise and handle a large amount of facts and see patterns in large bodies of evidence; a well-developed sense of fairness and justice; an ability to argue persuasively and communicate effectively both orally and in written documents as well as a commitment to a healthy environment for all.

High school subjects: Mathematics, English at Home or First Additional level, History and Life Sciences.

Tertiary education: LLB¹¹ with Environmental Law as an elective or MPhil¹² in Environmental Law. Additional modules in Botany, Zoology or Life Sciences would be beneficial.

¹¹ Bachelor of Laws

¹² Master of Philosophy



POLICY MAKER AND ANALYST

Policy analysts work to influence political and social events, raise public awareness of environmental issues and shape policy and legislation. They aim to assist the public decision-making processes by providing accurate and actionable research and information that addresses complex political, social and ecological problems. Policy analysts work in offices, libraries and interact with people in various contexts. They may also spend some time teaching at universities.

Skills: A high level of science-based research and analytical skills coupled with strong advocacy skills, logical reasoning ability, superior research and analytical skills, strategic thinking and excellent written and verbal communications skills.

High school subjects: Mathematics, English at Home or First Additional level, Physical Sciences, Life Sciences and Geography.

Tertiary education: BA in Human Ecology or Economic Geography. Other useful courses are Public Management and Administration and Public Policy and a BA in Decision-making and Policy.

FIELD: COASTAL MANAGEMENT





COASTAL (RESOURCE) MANAGER

Coastal management is the integrated and sustainable management of the coast and estuaries. Coastal resource managers aim to protect the natural functioning of the environment and manage the interaction between human beings and the marine and coastal environment thereby minimising the risk of homes and businesses being damaged, or even destroyed, by coastal erosion or flooding. This approach keeps residents safe, the economy sound and natural resources functioning. It requires a careful balance between socioeconomic development (taking the needs of the different user groups into account) and coastal and marine ecology.

In practice, the coastal manager helps identify coastal management issues in the area, the actions required to address such issues and decides how and when the actions will be implemented. The role includes ensuring compliance through monitoring and enforcing coastal zone permits and regulations and effectively managing pollution in the coastal zone.

Skills: Good information and computer technology skills, knowledge of coastal systems, mathematical and analytical skills, spatial reasoning ability, modelling skills, being meticulous and accurate with attention to detail and possessing social engagement skills to understand the use of information and interpret needs of client departments.

Future focus/emerging skills: Rising sea levels as a result of the climate crisis will dramatically increase damage (or at least the threat thereof) to coastal systems and communities.

High school subjects: Mathematics, Physical Science, History, Languages and Life Sciences.

Tertiary education: Degree in environmental engineering, natural resource management or sustainability with Biology, Ecology, Environmental Studies, Environmental Policy, Sociology or Anthropology.

COASTAL ENGINEER

Coastal engineering is a branch of civil engineering focused on constructing at or near the coast and developing the coast itself. Coastal engineers must adapt both of these to suit changing coastal conditions.

Erosion prevention and the protection of the coastlines against flooding are major responsibilities of coastal engineers. As such, they must design and construct effective structures to defend the city against storm surges and strong waves. Coastal engineers are also responsible for improving navigation channels, harbours and coastal recreation areas and managing pollution in marine environments. This is usually done through erecting structures, moving and stabilising beach sand and dredging coastal sediment.

All projects require careful planning and comprehensive assessments, including identifying the potential environmental impacts of construction. The coastal engineer achieves this by conducting surveys and monitoring studies, undergoing numerical modelling and testing physical models. Assessing the risks of rising sea levels and devising ways to adapt the infrastructure are key future skills.

Skills: Well-developed practical and academic skills, good interpersonal skills, project management, meticulous attention to detail and an interest in and comfort with being around, in and on water.

Future focus/emerging skills: Rising sea levels as a result of the climate crisis will dramatically increase damage (or at least the threat thereof) to coastal systems and communities.

High school subjects: Mathematics, English at Home or First Additional level and Physical Sciences.

Tertiary: BSc/BEng in Civil, Structural, Geotechnical or Coastal Engineering as well as a postgraduate qualification in coastal engineering.

MARINE SCIENTIST

Marine science is a broad field that covers the research and management of marine and coastal environments and ecosystems. It includes oceanography (geological, physical and chemical), ecology and marine biology.

Marine scientists conduct research and collect and process a wide variety of data, both at sea and on land (the latter often in the laboratory or with the help of computer programmes). Possible research areas include: coastal zone management; marine biodiversity, biology and conservation; coastal dune geomorphology; marine biochemistry; coastal water and estuarine ecology; marine biotechnology; marine pollution; marine geosciences; marine resource economics and climatology.

Skills: A good aptitude for mathematics and problem-solving, critical thinking abilities, good computer skills, the ability to operate sophisticated electronic equipment, a good understanding of ecological systems and scientific methods and data manipulation and interpretation.

Future focus/emerging skills: The ocean is closely linked to the global climate and is also a key food resource on earth, so research into the effects and possible ways of mitigating the climate crisis are critical future skills.

High school subjects: Mathematics, English at Home or First Additional level, Physical Sciences and Biology.

Tertiary: Diploma in Marine Science, BSc degree and a postgraduate qualification, for example in Applied Ocean Sciences.

EMERGING CAREERS





CARBON FOOTPRINT/CLIMATE CHANGE/RESILIENCE ANALYST

This role focuses on all things related to climate mitigation, such as the development of greenhouse gas (GHG) inventories and targets, assessing risks and opportunities related to climate change and developing sustainability strategies and reports. This position conducts primary and secondary research in energy, sustainability, and greenhouse gas categories. Duties include collecting, tracking and analysing data, and reporting on the results; this information will subsequently be used to inform policy and practice.

Skills: A good aptitude for mathematics, problem-solving and data analysis; critical thinking ability and good understanding of ecological systems and scientific methods. Analysts should also be detail-oriented and organised and have strong communication skills.

High school subjects: Mathematics, Physical Sciences, Life Sciences and English at Home or First Additional level.

Tertiary education: A relevant degree in Science, Engineering, Conservation, Environmental Policy or Humanities. Additional qualifications in/experience of using greenhouse gas inventory and sustainability reporting tools.



ENVIRONMENTAL ECONOMIST

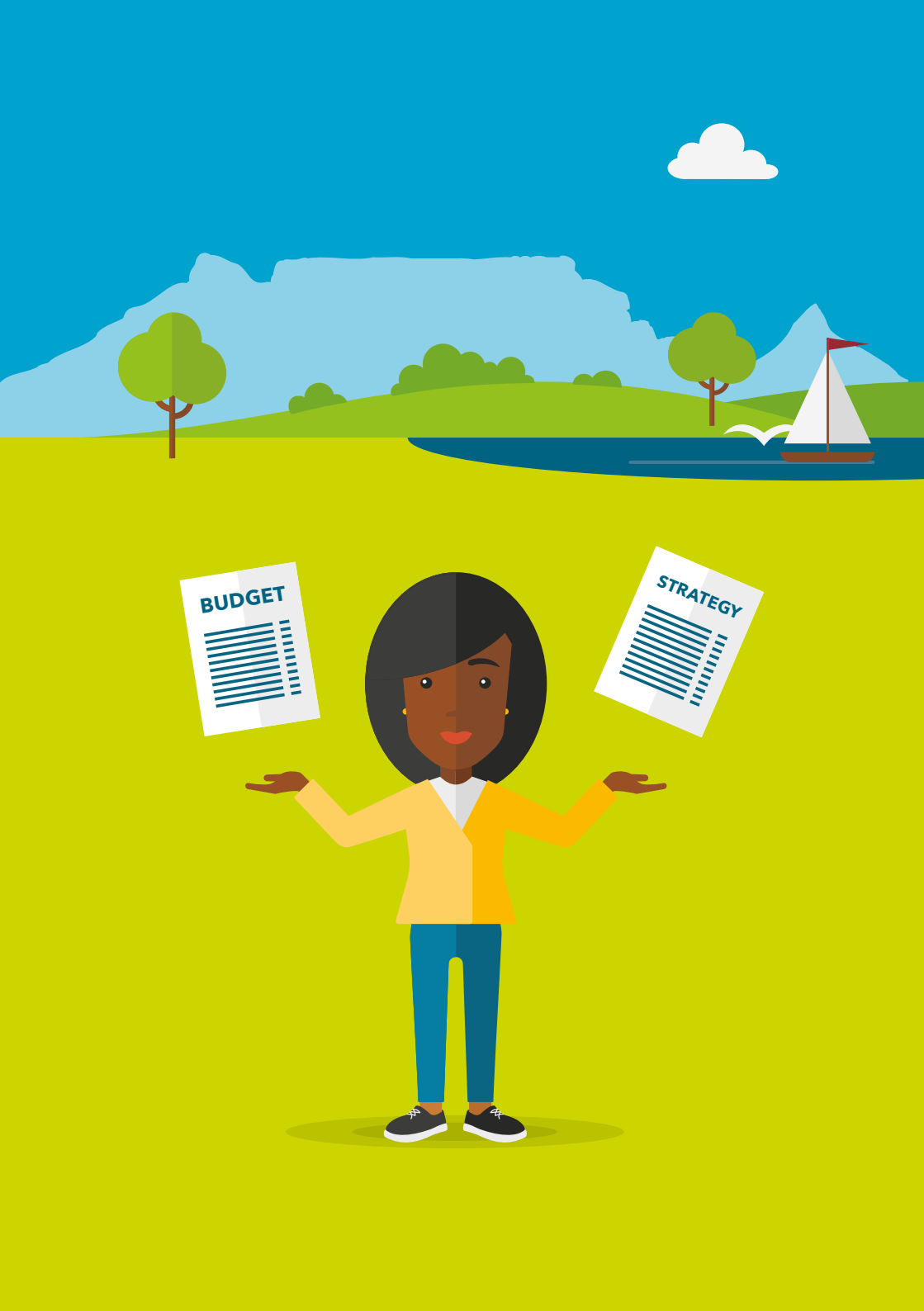
Environmental economists conduct economic analyses related to environmental protection and the use of the natural environment such as water, air, land, biodiversity and invasive species. They could also focus on climate change or renewable energy resources. Environmental economists evaluate and quantify the costs, benefits, incentives and impacts of alternative options using economic principles, statistical techniques and modelling programmes.

Their findings are communicated to policymakers through reports and presentations, which may help develop cost-effective and sustainable policy recommendations and enable the effective incorporation of environmental concerns into development decision-making. Senior environmental economists also manage project teams and departments, budgeting and strategy.

Skills: Problem-solving, research, analytical thinking, monitoring, computer skills, people skills and good verbal and written communication.

High school subjects: Economics, Mathematics, Social Sciences, Geography and English at Home or First Additional level.

Tertiary education: A relevant bachelor's degree, ideally in/with Mathematics and Statistics. Post-graduate qualification (MSc, PhD) in Environmental Economics.



CAREER PATH



You may need to complete a degree at a higher education institution or obtain a certificate/diploma through a Further Education and Training (FET) College or a Skills Education Training Authority (SETA). You also need to ensure that you have the right subjects to meet the minimum entry requirements to study further.

Interest and ability often go hand in hand, so if you focus on what you are interested in then you will be good at it. This will help you to choose the right subjects, and ultimately, a career that you will enjoy and excel in.

Career development is the lifelong process of managing learning, work, leisure, and transitions in order to move toward your ideal future. This requires a combination of continuous learning and hard work as it takes time to climb the ladder.

An example of a **career path** is that a newly qualified student could start a job as an assistant professional officer and then, with some experience, they could be promoted to professional officer, and eventually, senior professional officer. They would need additional training and skills to become a manager or director. These skills would typically focus on financial management, project management and people skills.



Aside from gaining appropriate qualifications and relevant experience, a mindset of collaboration and problem-solving across disciplines is a key future skill to fast-track your career.

Professionals are required to continually update their professional knowledge and skills. **Continuing Professional Development (CPD)** refers to the process of tracking and documenting a practitioner's professional skills, knowledge and experience, gained both formally and informally through their work experience and beyond initial formal training. This is a record of what the registered professional experiences, learns and applies, and demonstrates their ability to work safely, legally and effectively.

Recognition of Prior Learning (RPL) provides an opportunity for you to identify your learning, have it assessed and formally acknowledged. This process involves the identification, mediation, assessment and acknowledgement of knowledge and skills obtained through formal and informal learning.

Jobs are clustered into occupations based on the similarity of what they do. A **job** can be defined as a set of tasks and duties to be carried out by an employee such as a debtors manager or tax practitioner. On the other hand, an **occupation** is defined as a set of jobs whose main task and duties are characterised by a high degree of similarity (such as general accountant).

A **skill** can be defined as the ability to carry out duties and tasks of a specific job. Two dimensions of skill are used to arrange occupations into groups, namely skill level (level of education and experience) and skill specialisation (field of knowledge, tools and materials use, as well as kinds of services).

The following **industry bodies** can provide additional information:

- South African Heritage Resources Agency (SAHRA)
- Heritage Association of South Africa (HASA)
- South African Council for Natural Scientific Professions (SACNASP)
- South African National Biodiversity Institute (SANBI)
- South African Institute for Aquatic Biodiversity (SAIAB)
- South African Veterinary Association (SAVA)

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