

SEAS OF CHANGE

The South African fishing industry, that was once concentrated in the hands of a few, largely white-owned companies, has undergone an extraordinary transformation over the past ten years. Today the fishing industry is far ahead of other sectors of the economy in terms of participation by historically disadvantaged individuals (HDIs); it is estimated that at least 60% of commercial fishing rights have been allocated to HDIs or majority HDI-owned companies. Interestingly, a high degree of transformation has taken place in a very short space of time without compromising the principle of sustainable utilisation, fundamental to the management of fisheries. South Africa's industrial fisheries are widely regarded as among the best managed in the world.





The South African coastline is more than 3 200 kilometres in extent, linking the east and west coasts of Africa. From the coral reefs of northern KwaZulu-Natal, to the cool-water kelp forests of the Northern Cape, South Africa's shores are particularly rich in biodiversity: some 10 000 species of marine plants and animals have been recorded in our waters.

The productive waters of the west coast support a number of commercially exploited fish, including hake, anchovy, pilchard, horse mackerel, tuna and snoek, as well as rock lobster and abalone. On the east coast, squid, linefish and a wide range of intertidal resources provide an important source of food and livelihood for coastal communities. Marine life that is not harvested, such as whales, dolphins and seabirds, is increasingly recognised as a valuable resource for nature-based tourism.

The responsible utilisation and management of the country's marine and coastal resources is of vital importance to the well-being of South Africa's people and economy. About 29 000 South Africans, many of them from impoverished rural communities, find direct employment in the fishing industry. A further 60 000 people are estimated to find employment in related sectors.

In South Africa the utilisation of marine resources is regulated by a rights allocation system. Rights are allocated by the Minister of Environmental Affairs and Tourism or a senior official within the department to whom the Minister delegates the authority to allocate rights. The department's functions include the management of commercial, subsistence and recreational fisheries, as well as a wide variety of other activities, such as boat-based whale watching and shark-cage diving.

Fishing vessels are licensed annually, according to their port of origin and the purpose for which they are used.

The department is also responsible for monitoring the catches of commercial, subsistence and recreational fishers, regulations and for inspection of fishing boats, fish processing plants, and other places where fish is sold or stored.

Through regular scientific research the department establishes what the optimal utilisation of each fish species should be. This is done annually and ensures that fish stocks are managed sustainably.

Researchers provide advice on a wide range of parameters such as; the estimated size of a resource, the age distribution of its component fish, the quantity that may safely be harvested, the effect and desirability of declaring closed fishing seasons and areas, the optimum mesh size of nets that may be used and the effect that environmental factors have on resources.

Researchers carry out:

- Surveys of exploited resources and resources with potential commercial value;
- Biological research;
- Research into biodiversity and ecosystem health;
- Environmental research, particularly the influence of the environment on marine resources.

The department promotes South Africa's interests by participating in a number of international commissions, such as the International Commission for the Conservation of Atlantic Tunas (ICCAT), the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and the International Whaling Commission (IWC). DEAT's interest is to share research,

especially into stocks that straddle international waters as well as moving into our own Economic Exclusive Zone and to secure quotas for our fishing fleets on the high seas (international waters).

BEFORE 1994

The unfettered exploitation of South Africa's marine resources in the 1960s led to the spectacular collapse of several fish stocks in the 1970s. This led to the realisation that marine resources may only be exploited to a limited degree, if South Africa is to enjoy plentiful harvests from the sea in the years to come.

After record catches in the late 1960s, South Africa's commercially exploited fish stocks began to show signs of deterioration. The first step towards limiting access to these resources was made with the Territorial Waters Act of 1977, when the Government declared (and enforced) a 200 nautical mile (370 km) Exclusive Fishing Zone (EFZ) along South Africa's coast. This effectively excluded all but a few invited foreign vessels from the country's fishing grounds.

The continued decline of stocks in the 1970s and 1980s led to the introduction of a Total Allowable Catch (TAC) or Total Allowable Effort (TAE) restriction in most of the commercial fisheries. The TAC is the amount of fish that may be safely removed from a fishery over a year without jeopardising future harvests. A TAE limits the amount of effort that may be expended in catching fish. This could mean limiting the number of fishers, fishing vessels or fishing gear, or a combination of all three. The TAC or TAE is imposed over and above any other limits that may be applied to the harvesting of a resource, such as size limits, closed seasons and closed areas.



The South African coastline extends for more than 3200 kilometres, linking the east and west coast of Africa.

Under apartheid, the right of access to marine and coastal resources was denied to most South Africans. The fishing industry was characterised by a high degree of concentration, and most fishing rights were allocated to white-owned companies. For example, it is estimated that in 1992, HDI shareholding in the deep-sea hake fishery (South Africa's most important commercial fishery) amounted to less than 0.5%.

Prior to the passage of the Marine Living Resources Act in 1998, subsistence fishers were not recognised by law. They were subject to the regulations that governed recreational fishers and, as a result, were often criminalised by their attempts to feed their families.

Ironically, it is likely that South Africa's political isolation in the

1970s and 1980s limited the clamour by international fleets for access to the country's waters. Therefore, when South Africa set out to completely revise the management of its marine resources, it was in the unusual position of having commercial fish stocks that were in very good shape.

POLICY AND LEGISLATION

Fishing for Equity

With the publishing of the White Paper on Marine Fisheries Policy in 1997, and the passing of the Marine Living Resources Act in 1998, the fundamental policy and regulatory framework for fisheries management in South Africa were put in place. These two milestones followed an exhaustive series of negotiations that began with the convening of the Fisheries

Policy Development Committee in 1995.

Undoubtedly the most serious challenge facing Government, after the first democratic elections of 1994, was to re-allocate fishing rights (or quotas) in a way that would ensure that, the under-representation of HDIs and HDI-owned companies in the fishing industry, would be corrected. This presented a massive challenge to a government department that was, at the time, ill equipped for implementing the new Act.

The period between 1994 and 2000 was fraught with problems. The expectation that the Government would broaden access to marine resources resulted in a "rush" for fishing rights. In 1999, the department processed a total of 11 989 applications for rights; prior to 1990, it had processed no more

than 300. The result was long delays in the allocation of fishing rights and an increasingly litigious business environment.

By 2000 it was clear that a revised strategy was required to build a rational, legally defensible and transparent allocation system that would promote Government's objective of transforming the fishing industry. This strategy was introduced in 2000 when consultations with stakeholder groups were conducted around the country. By mid-2001 the department had called for applications for medium-term fishing rights of between two and fifteen years duration across all the commercial fisheries.

The policy guidelines that were developed for the 2001 rights allocation process, identified investment and experience in the fishing industry, as well as black economic empowerment and employment equity, as key criteria for securing fishing rights.

The policy guidelines reflected a shift in Government's approach to managing transformation in the fishing industry. Whereas Government had initially viewed the allocation of fishing rights to new entrants (emerging black-owned small, medium and micro enterprises or SMMEs) as the primary instrument of transformation, by 2001 many fishing companies that were previously entirely white-owned

and managed, had transformed internally by selling equity to HDIs and employing HDIs in top and senior managerial positions.

There were practical reasons for this shift in approach. With a few notable exceptions, the allocation of fishing rights to new entrants between 1996 and 1999 had met with only limited success. The quantity of fish allocated was usually small, with the result that most new entrants preferred to lease their fishing rights back to the established companies, rather than invest in the fishing industry. While this rent seeking behaviour was logical (small allocations often did not warrant the risk of investment) it did nothing to advance the department's



Early in 2004, the DEAT announced its intention to declare five new marine protected areas (MPAs)

objectives of supporting black ownership and participation in the fishing industry.

STRATEGIC APPROACHES

Extending the conservation agenda is a key objective in the years to come. The passage of the Coastal Management Bill is central to this objective. The promulgation and effective management of four, and eventually five, new Marine Protected Areas will bring 19% of our coastline under protection. The global goal, set at the World Parks Congress in Durban in 2003, is 20% coverage for all coastal states.

The forthcoming years will also witness the extension of subsistence fishing rights along the coasts of the Eastern Cape and KwaZulu-Natal. This will involve large numbers of people in legally harvesting fish. The plans to open up new commercial fisheries are also developing rapidly. The aim is to expand the economy through new fisheries and to create new jobs and associated wealth. Beyond this, the Department is involved in extensive planning to ensure that when the current four-year fishing rights expire, new, long-term rights are allocated.

The current stability in the fishing industry is to be enhanced by appointing additional inspectors to increase surveillance along our extensive coastline, appointing Honorary Fisheries Compliance Officers, taking full advantage of the newly established Environmental Courts in both Port Elizabeth and Hermanus and also by launching four new fisheries patrol vessels over the coming year.

Sustaining Marine Resources

Since the 1977 declaration of a 200 nautical mile (370 km)



On the east coast, squid, linefish, and a wide range of intertidal resources provide an important source of food and livelihoods for coastal communities.

exclusive fishing zone, South Africa has adopted a policy of stock rebuilding in several of its major commercial fisheries. This policy has paid off in the hake, pelagic and rock lobster fisheries, where catches have grown steadily in recent years.

However, while South Africa's offshore fisheries may be among the best managed in the world, a

somewhat different picture has emerged for some of South Africa's inshore stocks. Several species of linefish have collapsed in recent years and the small but valuable abalone fishery is severely threatened by poaching and changing environmental conditions.



CoastCare employs thousands of people in a range of activities, including the removal of litter, ensuring the safety of beach users, assisting with maintaining public facilities at fishing harbours, parking areas and picnic sites, and serving as information and tourist officers.

The pelagic fishery

Pelagic fish form large shoals in the surface layers of the sea – the pelagic zone. Small pelagic fish include sardines, anchovy, horse mackerel and red-eye herring, fish that are targeted by South Africa's purse seine fleet.

The pelagic fishery is the largest in South Africa in terms of catch volumes and the second most important in terms of value. Sardines are canned for human consumption, while anchovy, red-eye herring and small numbers of juvenile horse mackerel are reduced to fish meal, an important ingredient in animal feeds.

Over the past decade, populations of anchovy, sardine and redeye have shown a remarkable increase. The total combined population of these three species

doubled from just over three million tons in 1991 to peak at almost 7.5 million tons in 2001. In 2002 it remained at this high level, a large decrease in anchovy biomass being off-set by an increase in sardine abundance.

The South African fishing industry has made the most of the boom years. In 2001, 2002 and 2003 the purse seine fleet landed over half a million tons of pelagic fish. This feat had previously been recorded only five times in the past five decades.

The demersal fishery

Demersal fish live on the sea bed and include the Cape hakes (Merluccius paradoxus and Merluccius capensis), monk (Lophius vomerinus), kingklip (Genypterus capensis) and sole (Austroglossus pectoralis).

In South Africa, the Cape hakes form the basis of the country's demersal fishery. Approximately 160 000 tons of hake are landed every year. Monk, kingklip and sole are important by-catch species. Hake is landed by four different fishing methods: by large deep-sea trawlers, smaller inshore trawlers, longlines and by fishers who use small boats to catch hake on handlines.

Deep-sea trawling is the most technologically sophisticated and the most capital - and labour-intensive of the four fishing methods. The deep-sea hake fishery catches the largest portion of the annual TAC for hake, with 6% of the TAC being allocated to the inshore fishery and approximately 10 000 tons being landed by the line fisheries.

Hake catches have remained steady since the late 1980s;

however, both scientists and the fishing industry, have recorded a downturn in hake catches over the past three years. As a result, the TAC for hake has been decreased by 3 000 tons over the past two years and a further decrease of 3 000 tons is expected in 2005.

The lobster fisheries

West coast rock lobsters were first exploited commercially in South Africa late in the 19th Century, from small row-boats using hand-hauled hoopnets. Catches increased steadily during the early part of the 20th century, peaking at about 10 000 tons in the early 1950s. This high level of exploitation was maintained for a while, but by 1965 it began to decline, even though fishing effort was increased.

Catches stabilised in the 1980s at about 4 000 tons a year. But by 1990 environmental and fishing-related conditions caused the natural growth rate of the west coast rock lobsters to decrease, with fewer young lobsters entering the fishery. By 1996 the TAC was decreased to just below 1 500

tons. However, a stock rebuilding strategy that was instituted in 1996, which aimed to achieve a 15% recovery in stocks by 2006, paid off sooner than expected and the TAC increased to over 2 000 tons in 2003.

In total, 745 west coast rock lobster fishing rights were allocated in 2002, compared to only 39 right-holders in 1992. An initial 511 disadvantaged fishers were allocated west coast rock lobster rights on a limited scale in 2002 and a further 274 fishers were allocated commercial fishing rights for rock lobster in the newly opened fishing grounds to the east of Cape Hangklip in 2004.

The allocation of rights on a limited scale was part of a strategy by Government to encourage the development of SMMEs and to meaningfully address the legitimate demands of disadvantaged fishers who depend on inshore resources such as rock lobster and abalone for their livelihoods. Each right is valid for four years and provides the right-holder with a guarantee of a small income from fishing until

2005. Right-holders are only allowed to use hoop nets to catch their quota.

South coast rock lobsters are found in deep-water off the south coast and are caught by traps that are deployed on longlines.

Assessment of the south coast rock lobster resource in 1994 showed that the population was in decline and a programme of reducing the annual TAC was introduced. Even so, the stock had still not recovered by 2001, probably as a result of over-fishing on the part of Hout Bay Fishing Industries, one of the largest right-holders in the fishery. It is believed that this company's illegal catch may have amounted to as much as 135 tons tail mass per year, or 35% of the TAC. The company has since been successfully prosecuted.

Interestingly, since Hout Bay Fishing Industries was removed from the fishery, the south coast rock lobster stock has shown signs of recovery and the TAC was increased slightly in 2004.

The Success of the Beach Vehicle Ban

The proliferation of off-road vehicles in South Africa created a variety of negative environmental impacts. Bird and turtle nesting areas are particularly susceptible to damage from off-road vehicles, as are certain coastal landforms such as dunes, salt marshes, estuarine sand and mud flats.

On 21 December 2001, the Minister prescribed regulations in terms of the National Environmental Management Act, (NEMA) which provides for the controlled use of off-road vehicles in the coastal zone. The regulations are commonly referred to as the off-road vehicle regulations or 4x4 regulations and generally prohibit the use of vehicles on beaches and in the coastal zone, except in exceptional circumstances.

Monitoring of stretches of coast has indicated that the banning of off-road vehicles has enabled several shore-breeding birds – and especially the Damara tern and the African black oystercatcher – to again breed successfully on beaches. In the case of the Damara tern, the ban has enabled the species to complete breeding far earlier in the season than in other monitored years.

Bird counts also show a marked increase in the numbers of sanderlings, common terns, crowned plovers and blacksmith plovers. It is also telling that the numbers of birds counted at Bird Island in Lamberts Bay fell after the ban was imposed. Scientists propose that Bird Island acted as a refuge for these birds prior to the ban on off road vehicles coming into force.



Marine Protected Areas will help conserve threatened seabirds.

The abalone fishery

Rampant illegal fishing between 1996 and 2003 has decimated the abalone resource, leading to the closure of the recreational fishery and the setting of a global TAC of just 282 tons in 2003.

In 2004, a new system of co-management, based on the territorial user rights fishery (TURF) system was introduced in the fishery. The new system of co-management was introduced in an effort to instill a culture of “ownership” among right-holders and members of coastal communities in order to ensure the long-term viability of the South African abalone fishery.

According to the TURF system, each right-holder will only be able to catch his or her quota in a stipulated zone. The aim of the TURF system is to involve right-holders and members of fishing communities in the management of the abalone fishery. The system is premised on the notion that by allocating a small fishing zone to a small number of divers who are known to enforcement officials and the community members who reside adjacent to that fishing zone, access to the abalone

fishing grounds by unauthorised divers would be effectively closed.

The linefishery

Commercial fishing rights for the linefishery, the hake handline fishery and the tuna pole fishery were allocated for the first time in 2003.

The tuna pole and hake handline fisheries are considered to be stable, with healthy stocks. However, the traditional linefishery, which targets coastal species such as snoek (*Thysites atun*) and yellowtail (*Seriola lalandi*) in the Western Cape and kob (*Argyrosomus spp.*) and reef fish in KwaZulu-Natal, was declared by the Minister of Environmental Affairs and Tourism in December 2000 to be in a state of environmental crisis. Many linefish stocks, including kabeljou, rock cod, red steenbras, white steenbras, Roman, daggeraad, poenskop and slinger, have collapsed.

A collapsed stock is one that has been fished to levels at which the number of sexually mature adults has dropped to below 20% of the unfished (pristine) stock. This

means that the stock cannot produce sufficient young to replenish itself.

The department has taken a two-pronged approach to rehabilitating these stocks. Firstly, four strategically located new Marine Protected Areas (MPAs) allow for a higher level of stock protection by managing the marine area in terms of sanctuary or no take zones, as well as by concentrating enforcement strategies and resources in a more confined area.

Secondly, a new linefish management plan has been devised, dividing the fishery into three sub-sectors (handline hake, tuna and traditional linefish). These follow the guidelines set for each of the exploited species through the Linefish Management Protocol, which intends to set catch guidelines for each species.

In addition, the traditional linefishery is managed in terms of a Total Applied Effort (TAE) restricting effort in this fishery to no more than 450 vessels and 3 450 crew.

The Coast

The White Paper for Sustainable Coastal Development in South Africa recognises that the coordination between the leading department in each province and other departments whose work form part of the overall coastal management effort, is essential. Also important is the involvement of non-governmental stakeholders in the province, such as business, labour, community-based organisations and user groups. To this end, the White Paper proposes that a coastal committee be established in each of the four coastal provinces. This has now been achieved and progress has been made towards the establishment of a national coastal committee.

Successful Prosecutions

- In April 2002 Hout Bay Fishing Industries and two of its directors were convicted of 301 charges of overfishing and corruption. This was a significant breakthrough in the Department's efforts to clamp down on overfishing. A fine of R40 million was paid, the largest fine ever imposed for a fisheries-related offence in South Africa.
- At the end of May 2004 the directors of the company were convicted in a court in the USA where they were sentenced for activities linked to their previous conduct in South Africa. Heavy prison sentences and fines were imposed.
- Further investigations into Hout Bay Fishing Industries by the Scorpions led to the conviction of 18 other vessel owners who had colluded with the company and harvested up to 10 times their allocation of west coast rock lobster.
- For their collusion with Hout Bay Fishing Industries, 14 fisheries control officers were first suspended and later sentenced and dismissed.
- SA Hake (Pty) Ltd and its director were fined R250 000 for catching and supplying hake to Hout Bay Fishing Industries. SA Hake (Pty) Ltd owned and operated the fishing trawler Cobelo which was used to illegally catch over 912 tons of hake in 2000. The Cobelo was seized by the Department and was then sold on public auction in January 2002 for a sum of R2.9 million.
- The foreign-registered tuna longline vessel, the Golden Eagle, was seized by the Department and its owners convicted on a charge of fishing in South African waters without a foreign fishing license. They paid a fine of R500 000. The proceeds from the sale of the fish caught illegally by the Golden Eagle, including tuna and swordfish worth R158 000 were also forfeited to the State.
- In October 2002, toothfish worth approximately R500 000 was seized from a foreign registered vessel longline vessel the Viola. The seized toothfish was forfeited to the state.
- In November 2003, a number of fishing companies paid a R20 000 admission of guilt fine for each of 12 vessels that were found to be fishing for west coast rock lobster in a marine sanctuary.



It is envisaged that the Coastal Management Bill, which was drafted in 2002, will be promulgated during 2005. The Bill provides for important interventions that will regulate, enhance, preserve or rehabilitate sensitive or over-exploited coastal areas. It also ensures equitable access to South Africa's coastline and aligns South African

legislation with international laws and conventions.

During the period under review, a number of initiatives were implemented under the Coastcare banner. These include the formulation of interpretive signage for the coast, an "Adopt a Beach" programme, and the Coastcare induction programme. "Adopt a Beach" aims at increasing

awareness of coastal management issues among participant groups, while the induction programme is aimed at building capacity among provincial and local authorities.

The Blue Flag campaign was expanded to include seven beaches, five in KwaZulu-Natal and one each in the Western Cape and Eastern Cape provinces. The international Blue Flag campaign is an incentive scheme that encourages local authorities along the coast to manage their beaches in an environmentally friendly manner. Beaches that meet specific criteria on safety, cleanliness, services, water quality and amenities are awarded a blue flag which may be flown as part of the local authority's tourism marketing strategy.

Other coastal projects that are being run by the department include local demonstration projects and sustainable coastal livelihoods projects that are being funded by the British development agency, DFID. Details of all these projects will be published in a project portfolio in 2004.

An initiative to remove cottages that were erected illegally in the coastal zone has gathered momentum. Legal action has been taken against a number of parties on the Wild Coast and it is expected that this will be extended to other coastal areas in due course.

The off-road vehicle regulations that were promulgated in 2001 are to be amended during 2004 in order to increase their effectiveness and ease of implementation.

ACHIEVEMENTS

Throughout the allocation of medium-term rights in 2001 and 2002, the department was mindful



Bird Island, home of thousands of gannets near Port Elizabeth, has been declared a Marine Protected Area.

of the allegations of corruption, nepotism and racism that plagued the allocation of fishing rights in the past. Therefore, the new system for allocating fishing rights was designed to be transparent, credible and fair.

The assessment of the medium-term rights allocation was undertaken by a consultancy that was appointed through an open tender process, and which was entirely independent of the department. The consultancy was guided and directed by the department and its policies. It comprised teams of lawyers, accountants and project management specialists. Their advice was then presented to the Minister's delegates (the most senior officials in the Department) who considered each application in the light of the advice provided, before determining which applications to accept and which to reject.

Importantly, the assessment of each application is documented and recorded at every step in the process, thereby ensuring transparency and compliance with the Promotion of Administrative Justice Act (PAJA). Furthermore, every unsuccessful applicant has the right to appeal against the department's decision, and to have his or her appeal personally considered by the Minister of Environmental Affairs and Tourism.

The handling of applications and application fees by the Rights Verification Unit (RVU) instilled a new professionalism into the process. The RVU comprised teams of forensic auditors and was responsible for sorting and storing applications, thereby ensuring that they could not be lost or tampered with. Their involvement removed the potential for corruption during any stage of the allocation and appeal process.

Now that the department has built a sound system for allocating rights, it is engaged in directing the course of fisheries management for the next decade. The groundwork for the 2005 long-term rights allocation is being laid, a comprehensive policy for each fishery is being developed, and the department is focusing on its compliance obligations. Most importantly, however, the drive to build a marine science and management capacity of high standing that is able to play a constructive role on the African continent is well underway. This entails, among other things, formulating an ecosystem approach to fisheries management, exploring the potential of new and under-utilised fisheries, developing the legal and scientific framework that is required to boost aquaculture production in South Africa, and assisting other African nations to build equally robust fisheries management regimes.

Achieving transformation goals

Some of the fisheries in which a high degree of transformation has taken place over the past ten years are:

The deep-sea hake fishery

In 1992, only 21 predominantly white-owned and controlled companies had rights to utilise the deep-sea hake resource. By 2002, this number had more than doubled to 53 right-holders. There is also a more equitable distribution of quota among the deep-sea fishing companies in South Africa, a trend that is reflected by the fact that more than 92% of the TAC was held by the top five companies in 1992, compared to less than 74% in 2002.

Currently, 74% of right-holders in the deep-sea hake fishery are majority HDI-owned and managed. In comparison, it is

Marine Treasures

- Of all the marine fish species in the world, 16% are found off the South African coast.
- A SCUBA diver is reported to have seen a Coelacanth *Latimera chalumnae* at a depth of 54m off Sodwana Bay early in 2004. The most recent sighting of the fish that was thought to have become extinct 70 million years ago follows the discovery of a group of seven coelacanths off Sodwana Bay in 2002.
- The top ten estuaries ranked in terms of conservation importance are the Knysna, Berg, Olifants, Kosi, St Lucia, Swartvlei, Gariiep, Bot/Kleinmond, Klein and Mhlathuze estuaries.
- The South African fishing industry contributes at least R2.5 billion a year (1%) to South Africa's Gross Domestic Product (GDP).
- The deep-sea hake fishery generates sales of more than R1.45 billion per annum, is the largest exporter of perishable frozen products in the country and has an international reputation for being a well-managed fishery producing a quality product.



estimated that in 1992, HDI shareholding in the deep-sea hake fishery amounted to less than 0.5%.

The pelagic fishery

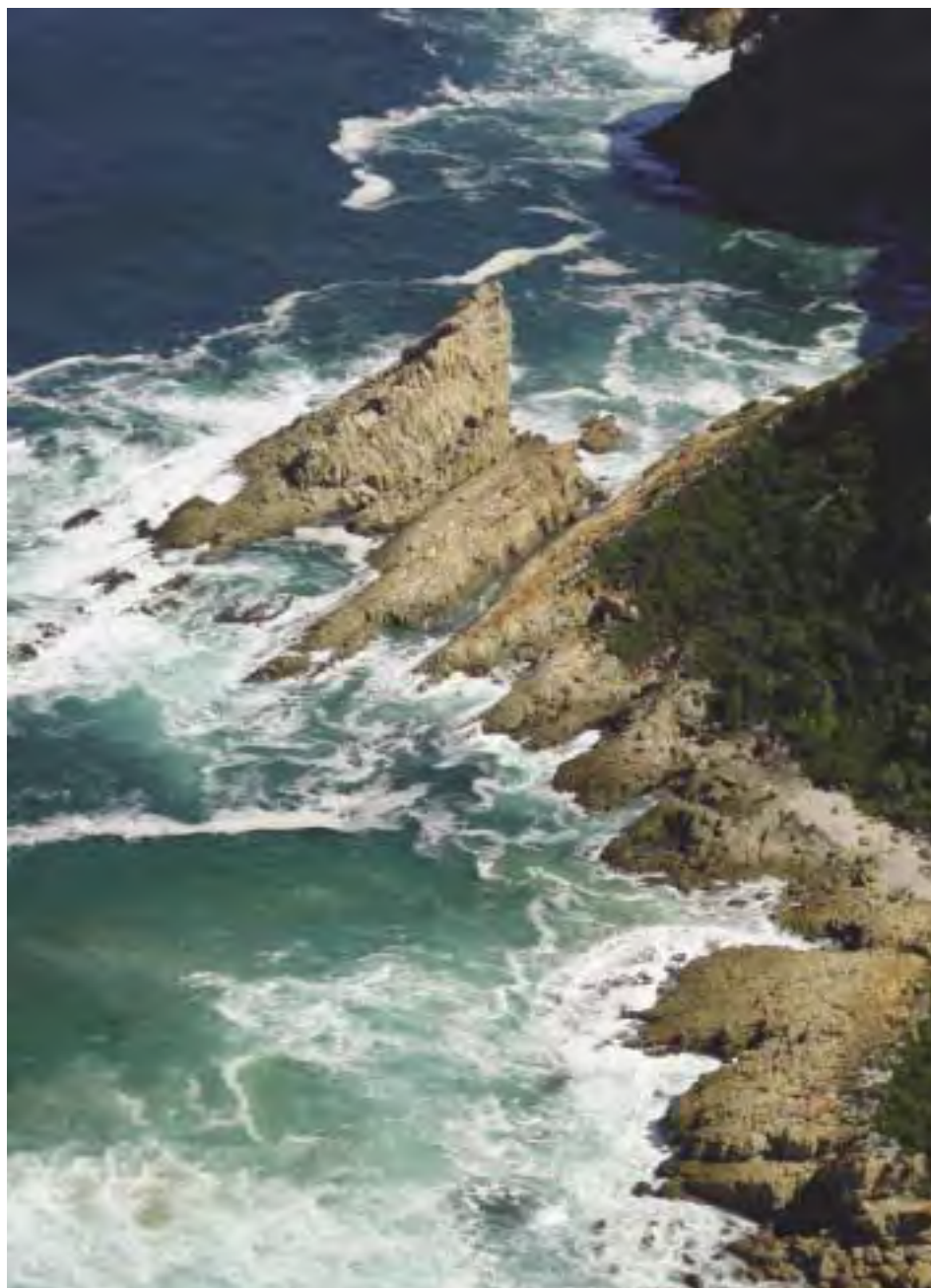
Allocation records show that 73% of right-holders in the pelagic fishery are majority HDI-owned companies. These companies hold 75% of the pelagic TAC. Therefore, access to the pelagic fishery by HDIs increased tenfold, from less than 7% in 1992 to more than 70% in 2002.

The south coast rock lobster fishery

The offshore nature of this fishery requires the use of large vessels (30 to 60 metres), which are expensive to purchase and operate. These vessels need to fish a relatively large quota to make their operational costs viable. This makes it difficult for smaller right-holders to participate in the fishery. But in spite of these constraints, 65% of south coast rock lobster right-holders are SMMEs. Remarkably, 77% of the south coast rock lobster resource is controlled by HDIs. This was achieved to by allowing new entrants into the fishery, and through substantial changes in the ownership of the larger companies.

The west coast rock lobster fishery

As many as 90% of right-holders in the west coast rock lobster fishery were classified as SMMEs in 2002. 66% of these companies are majority HDI-owned, compared to 1992 when the majority of the lobster TAC was in the hands of white individuals and white-owned companies. Furthermore, 91.5% of fishing rights that were allocated on a limited scale were allocated to HDIs or HDI-owned micro-enterprises. This means that



Tsitsikamma's coastline was one of the first Marine Protected Areas declared in South Africa

approximately 70% of the global west coast rock lobster TAC is HDI-controlled.

Compliance and Enforcement

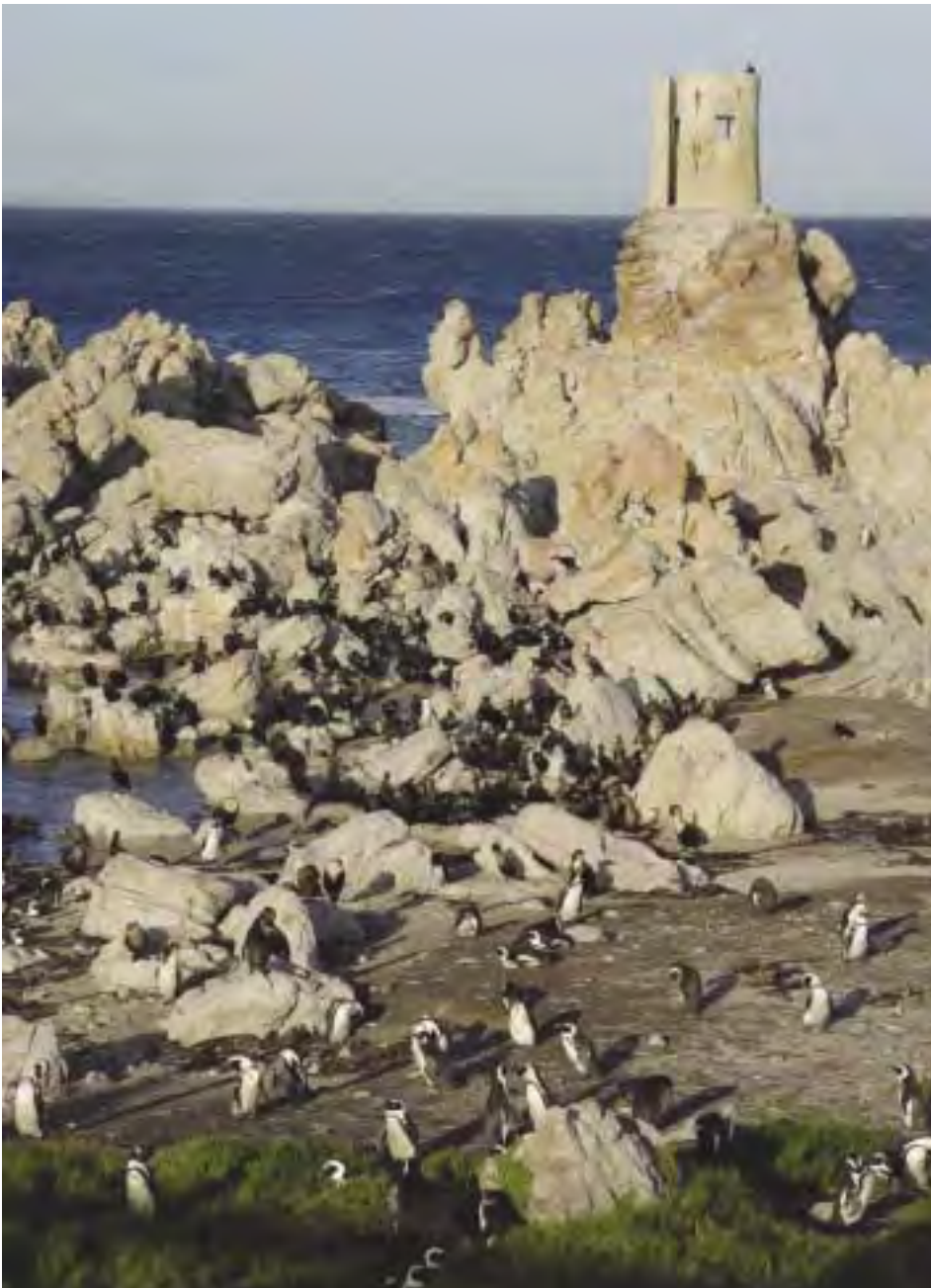
The dissolution of Hout Bay Fishing Industries following the company's conviction for over-fishing resulted in the department purchasing the longline fishing vessel, Eagle Star from the Asset Forfeiture Unit (AFU). The AFU seized the vessel from Hout Bay Fishing Industries in 2001, when the company and its directors

were found guilty in a Cape Town court. The Eagle Star is now being used to train fisheries control officers and has already been used in a number of operations, including one in support of Mozambique's compliance needs.

Improvements in compliance

Recent developments have led to a dramatic improvement in the field of fisheries compliance:

- An observer programme has been initiated in the offshore fisheries. The function of on-



African Penguins (formerly Jackass Penguins) are protected within the Table Bay National Park and at Betty's Bay in the Western Cape

board observers is to gather a wide variety of biological data. However, the presence of observers on fishing vessels is primarily to independently verify that regulations are adhered to.

- Through a vessel monitoring system (VMS) the exact location of all vessels in the South African fleet is monitored via satellite. All commercial fishing vessels are now obliged to carry a VMS on board.
- New levels of partnership between the department and

the South African Police Services (SAPS) and the South African National Defence Force (SANDF) have increased investigations leading to arrests and prosecutions which in turn have had a deterrent effect on would-be poachers.

- The first environmental court in Hermanus, Western Cape has achieved a remarkable conviction rate of 70%. In the past an estimated 10% of abalone-related offences were successfully prosecuted and

many cases took years to conclude. A second environmental court was opened in Port Elizabeth, Eastern Cape in early 2004

- The amending of laws has ensured that loopholes were closed and that the severity of sanctions was increased. For example, the fine for abalone poaching was increased from R40 000 to R800 000 in 2003.
- By the middle of 2005 the Department will take delivery of four purpose-built fishery protection vessels. The vessels are being built at a cost of R515 million and will boost capacity to apprehend and inspect non-compliant fishing vessels.

Science

The Department of Environmental Affairs and Tourism marked the publication of the 25th edition of the South African Journal of Marine Science by giving it a new look and renaming it the African Journal of Marine Science.

The journal will now broaden its geographic scope and provide an outlet for marine scientists from other African countries to publish their work. It has become the top ranked science journal in South Africa since its inception in 1983.

International Cooperation

South Africa, has adopted the Benguela Fisheries Interaction and Training (BENEFIT) Programme and the Benguela Current Large Marine Ecosystem (BCLME) Programme as integral parts of the New Partnership for Africa's Development (NEPAD) initiative.

BENEFIT is a joint initiative between South Africa, Namibia and Angola to conduct scientific investigations into commercially important living marine resources and their interactions with the envi-



One of the greatest challenges after 1994 was to fairly allocate fishing quotas to historically disadvantaged citizens

ronment in the Benguela region. The BCLME Programme is an initiative by Namibia, Angola and South Africa to facilitate the sustainable management and protection of the Benguela Current Large Marine Ecosystem. It is primarily aimed at improving the structures and capacities of the three countries to deal with problems and issues which occur across national boundaries, in

order that the ecosystem may be managed as a whole. The following important instruments have been acceded to, or ratified:

- Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and

Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Straddling Stocks Agreement);

- Agreement on the Conservation of Albatrosses and Petrels (ACAP);
- Convention for the Protection, Management and Development of the Marine and Coastal Environment of



CHALLENGES AHEAD

One of the key commitments emanating from the World Parks Congress, hosted by South Africa in September 2003, was that marine protected areas (MPAs) around the world should increase dramatically. At present, less than 1% of the world's marine and coastal systems have been conserved (compared to over 10% of the land surface). These make up the Earth's largest and most diverse biome, crucial in terms of human food supply. Signatories to the Durban Accord made a commitment to increase MPAs to 20%. At the time, 5% of South Africa's coastal waters were protected through MPAs.

Early in 2004, the Minister announced his intention to declare five new MPAs, putting 19% of South Africa's coastline under

such protection.

The promulgated MPAs are Aliwal Shoal, near Umkomaas in southern KwaZulu-Natal, the coastal and marine environment adjacent to Pondoland in the Eastern Cape. Bird Island in Algoa Bay, parts of the Cape Peninsula and the Namaqualand MPA in the Northern Cape will be promulgated later in 2004.

New Fisheries

The Department plans to develop twelve new fisheries over the next five years. Some of the fisheries that have been earmarked for development are Eastern Cape abalone, limpets, ornamental fish, east coast rock lobster, sand soldier and Indian Ocean squid in KwaZulu-Natal.

Albatrosses

It is estimated that, every year 300 000 seabirds die in the Southern Ocean – 30 000 in South African waters. The seabirds drown as they swallow the baited hooks that are shot into the water by fishing boats that target tuna, hake, swordfish and Patagonian toothfish.

In 2003, South Africa gave impetus to the fight to save albatrosses and petrels by joining Australia, Ecuador, New Zealand and Spain in ratifying the global Agreement on the Conservation of Albatrosses and Petrels (ACAP). South Africa's signing of the agreement brought it into force.

The ACAP aims to reduce the threat of extinction for the twenty-eight species of albatrosses and larger petrels that are covered by the agreement. It describes a number of conservation measures to be implemented by signatory states in order to improve the conservation status of the increasingly threatened seabirds of the open oceans. Simple by-catch mitigation measures, such as bird scaring devices and the setting of lines at night, need to be widely adopted if these birds are to be saved from extinction.

South Africa's waters are home to important populations of four species of albatross, the vulnerable Wandering Albatross and Grey-headed Albatross and the endangered Indian Yellow-nosed Albatross and Sooty Albatross.

the East African Region and Related Protocols (Nairobi Convention);

- Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region and Related Protocol (Abidjan Convention);
- SADC Protocol on Fisheries.



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Fisheries that have been proposed for development, will initially be managed as experimental fisheries in order to collect data for scientific analysis, and ensure that the fisheries do not expand more quickly than the acquisition of information necessary for their management.

Policies and guidelines for an experimental octopus fishery were

developed in 2002, and applications for experimental permits were called for in 2003. It is anticipated that the bulk of the octopus catch will be exported to the Mediterranean countries where there is a high demand for octopus products.

The last foreign fishing boats left South African waters in January 2003 following the termination of

South Africa's 25-year-old fisheries agreements with Japan and Taiwan. This paved the way for the development of a South African fishery for large pelagic fish, such as tuna and swordfish.

A policy for the allocation of ten-year fishing rights for catching large pelagic fish by the longline method was finalised in 2004 and it was anticipated that fishing rights would be allocated by mid-year.

Aquaculture

Aquaculture production in South Africa is in the region of 4 000 tons a year, much of this attributable to abalone and mussel production. Since 2002, abalone farms on the south coast have collectively produced more abalone products for export than the wild abalone fishery.

These farms are creating a substantial demand for fresh kelp fronds, which are fed to cultured abalone. Research into seaweed cultivation is being undertaken by the department to establish whether the nutrient-rich wastewater from abalone farms can be effectively used to cultivate seaweeds for abalone feed. If this method of culture proves to be feasible, it would have the added benefit of purifying the wastewater that is pumped out of abalone farms and into the sea.

The success of the abalone farming industry has prompted new interest in the culture of fin-fish in South Africa. One of the most exciting local species for the aquaculture industry is the dusky kob, *Argyrosomus japonicus*. Research carried out in land-based tanks and in cages at Rhodes University showed that this species takes to captivity very well, growing from fingerlings to over 1.0 kg in less than a year.

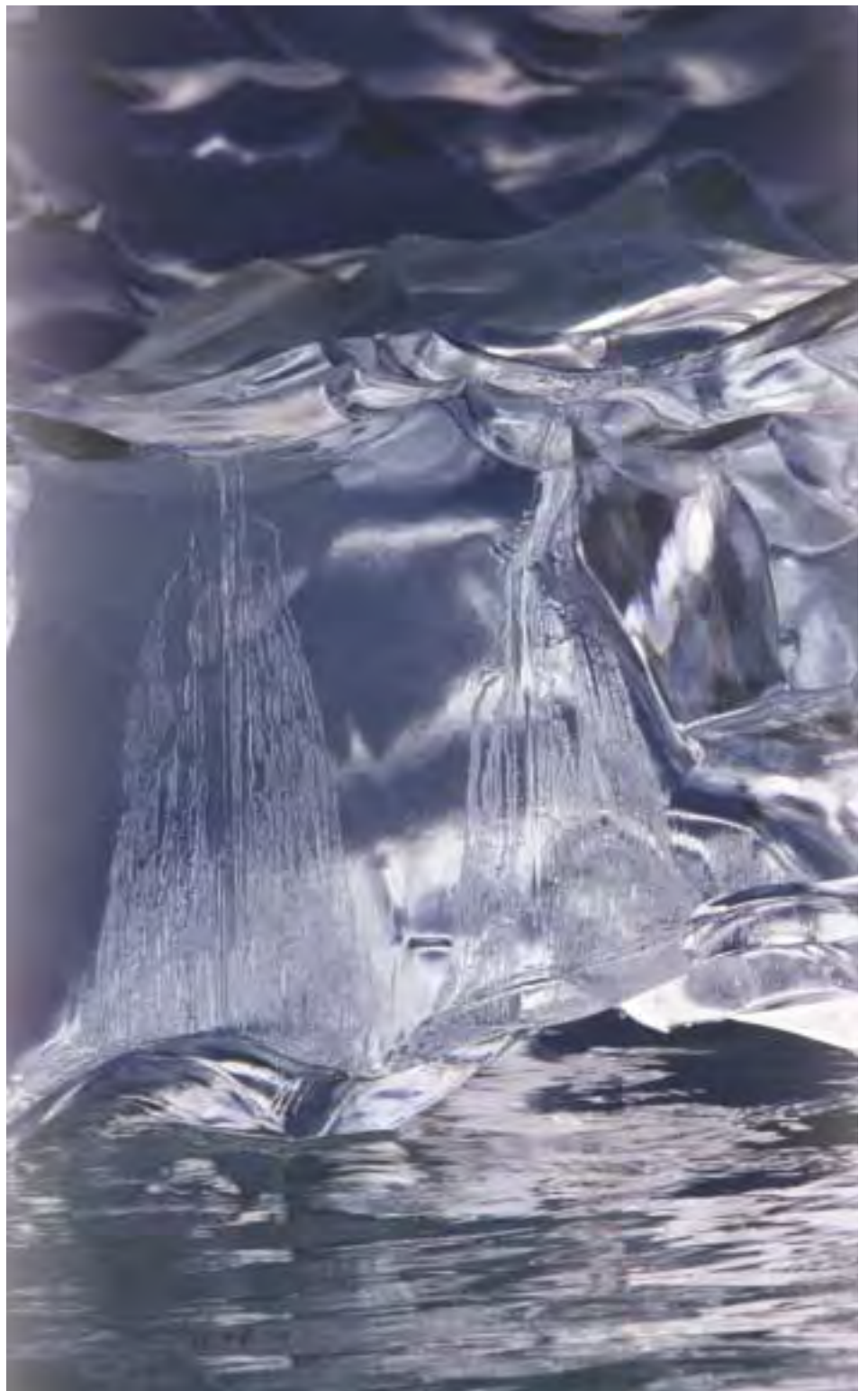
Subsequently, a number of fishing companies and other interested parties have taken up the challenge of farming dusky kob and are following their own paths to the commercialisation of the species.

ANTARCTICA AND ISLANDS

Scientific endeavour has for over 40 years been the primary justification for a human presence in Antarctica. The Antarctic Treaty is one of the world's most successful treaties. It was signed in 1959 and its purpose is to ensure that Antarctica is only used for peaceful purposes. It covers the entire area south of latitude 60°S – 10% of the world's land surface and 10% of its oceans. At present forty six countries are signatories to the Treaty, representing 80% of the world's population. South Africa is one of the original twelve signatories to the Antarctic Treaty and plays a leading role in Antarctic matters.

Today DEAT provides logistical support to the annual science programme, which is conducted in Antarctica and on Marion and Gough islands. The department, through the South African National Antarctic Programme (SANAP) undertakes a `massive logistical exercise every year in its effort to supply and maintain three scientific bases: SANAE IV, Antarctica; Marion Island in the South Indian Ocean; and Gough Island, a British territory in the South Atlantic Ocean.

As a founding member of the Scientific Committee on Antarctic Research (SCAR), South Africa has had an opportunity to contribute on various levels to the international Antarctic community. This has been done through scientific collaborations such as the Southern Hemisphere Auroral Radar Experiment (SHARE) with



the United Kingdom and the United States of America, and the Seismology Project with Germany.

South Africa recently hosted the 27th Antarctic Treaty Consultative Meeting (ATCM). This was the first time that South Africa hosted this annual event. Linking the meeting to the celebration of ten years of South Africa's democracy, the country promoted itself as a platform for increased international

scientific co-operation. Modern facilities at SANAE IV and Marion Island, together with increases in scientific funding, provide opportunities for such collaboration.